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Possibility of Thrombolytic Therapy in Acute Thrombotic Stroke In Services Hospital Lahore

Impairment of Renal Function in Non-proteinuric Diabetic Patients

Frequency Of Immediate Pneumothorax After Subclavian Venous Cannulation

Colonoscopic Evaluation of Bleeding Per Rectum in Children

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Original Article

POSSIBILITY OF THROMBOLYTIC THERAPY IN ACUTE THROMBOTIC STROKE IN SERVICES HOSPITAL LAHORE

Muhammad Adnan Aslam , Safia Bano, Ahsan Numan, Rashid Imran

Objective: To find Public awareness regarding stroke and the cause of delayed presentation of stroke patients in our setup at Services Hospital Lahore

Material and Methods: This prospective study was conducted on 113 patients in Department of Neurology, Services Hospital, Lahore over a period of one year from January, 2012 to December, 2012. The time of presentation was divided into 4 segments; within 6 hours of stroke onset, within 6-12 hours of stroke onset, within 12-24 hours of stroke onset and more than 24 hours of stroke onset with diagnosis of cerebral infarction. Also knowledge of patients regarding tPA and cause of delay was assessed.

Results: There were 68 males and 45 females with age range of 27 to 83 years. Only 9 patients presented within 6 hours, 22 within 6-12 hours, 47 within 12-24 hours and 35 more than 24 hours. A very little percentage of patients with cerebral infarction landed in Emergency department within 6 hours of stroke onset. Also 91.1% of patients were unaware of thrombolytic therapy. When asked for a single factor for pre-hospital delay, 67% of patients labelled transportation issues as a cause.

Conclusion: Because early presentation is a prerequisite for thrombolysis for acute ischemic stroke we recommend to start educational programs that increase public awareness of the need to seek medical help promptly after stroke and word stroke should be replaced with brain attack and measures to improve the traffic sense should also be undertaken..

Keywords: Stroke; Ischemic; Thrombolysis.

Introduction

Stroke is a common problem worldwide and it is estimated that annually 15 million people worldwide suffer from stroke. These results in 5 million deaths and another 5 million are left with permanent disability. Therefore stroke is considered as the most common cause of permanent disability worldwide[1]. At the same time over the next decade, the stroke burden is projected to rise, particularly in developing countries. So, timely access to effective medical treatment will be an important element to combat this public health challenge. Currently there is a continuous ongoing search for better and effective treatment regimens for this problem. Among agents being used for acute management of stroke, tissue plasminogen activator (tPA) was approved more than a decadeago[2]. At that time there was a hope that this new treatment would benefit many stroke patients, but this promise has yet to be realized. The main factor for this is that thrombolysis is a time dependent activity[3]. There is a narrow window of opportunity and that is within 3 hours after stroke in which tPA should have been administered. So if patient presents after 3 hours of symptom onset, it is of no use[4,5]. In developing countries like Pakistan, the arrival of the patients after the onset of symptoms is usually much more than 3 hours, so our patients are usually unable to get benefit of this drug. So we planned this study to find out the awareness of our patients about this treatment as well as to find causes of delayed presentation of patients after stroke in our society.

Material and Methods

This was a cross-sectional study conducted at Neurology Department of Services Hospital, Lahore, from January 2012 to December, 2012. All the adult patients of both gender with age >18 years presenting with sudden onset of focal neurological deficit established on detailed history and careful examinationwere included in the study. All patients underwent CT scan of brain plain to rule out hemorrhagic stroke and those with ischemic stroke were included. Those who recovered their focal deficit within 24 hours and normal CT Brain plain were also excluded from the study (Figure 1). After arrival in the emergency department (ED), all the patients were attended by on duty doctor of the department and were treated according to the

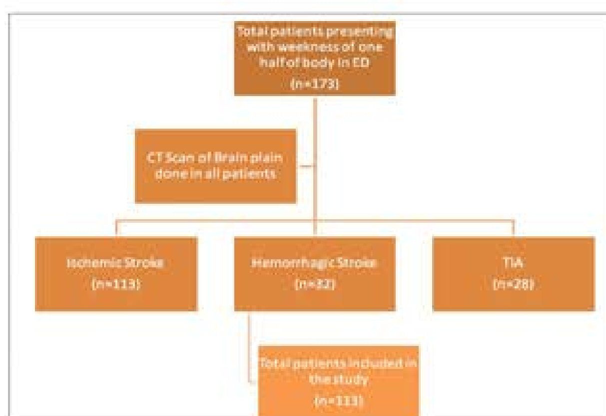
diagnosis. Informed consent was taken. A questionnaire devised by the authors was filled by the patient (if possible) or the accompanying attendants. The questionnaire was divided into three portions: Demographic details of the patient; pre-hospital delay and cause of the delay; and knowledge of the patients about tPA. Pre-hospital delay was defined as the time from symptom onset until the earliest documented time in the ED. The total duration was further categorized as <6 hours, 6-12 hours, 12-24 hours and >24 hours of stroke onset. Regarding knowledge about tPA, they were asked following question:Do you have any idea about any injectable mode of treatment for acute stroke?All the data were recorded on the proforma. Data was analyzed by using statistical package of social sciences (SPSS) version 21. Descriptive statistics, frequencies, and percentages were calculated for variables such as type of stroke, living conditions, time of stroke onset, status of financial support, and time of arrival to hospital after development of symptoms. Mean ±standard deviation (SD) was used for continuous variables such as age and descriptive statistics were used for the analysis of the data.

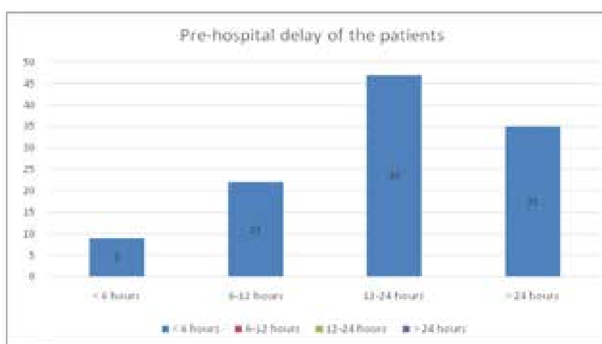
Results

During this study period, 173 patients with stroke presented in our ED. Among these, 113 patients (65.3%) had ischemic stroke, 32 patients (18.4%) had hemorrhagic stroke while 28 patients (16.1%) had transient ischemic attacks (TIAs). Among these, 113 patients with ischemic stroke were included in the study. Of 113 patients, 68 were male (60.17%) while 45 were female (39.82%). All the demographic details of the patients is summarized in **Table-1** of all patients, 59 (52.2%) patients had stroke onset in daytime (6 am to 6 pm) while 54 (47.8%) patients developed symptoms of stroke in the night time (6 pm to 6 am). The pre-hospital delay of patients in our study is summarized in **(Fig-2).** Among 113 patients, 65 patients (57.5%) were having lesion of non-dominant hemisphere while remaining 48 patients (42.5) had dominant hemisphere involved. While asked from the patients regarding knowledge about tPA, 84 patients (74.33%) told about injection Neurobion (Middle east brand) or Methycobal. A total of 103 patients (91.1%) were unaware of thrombolytic therapy but they were aware of costly injection given for heart attack **(Fig-3).**When asked for a single factor for pre-hospital delay, 67% of patients labelled traffic issues as a cause **(figure 4).**Also we found that out of 9 patients presenting within 6 hours of stroke onset, 7 patients had left sided weakness. Similarly of 22 patients presenting within 6-12 hours of stroke onset, 17 patients had left sided weakness. Those 42 patients who presented in 12-24 hours, 14 patients had left side involved.

Table-2: Demographic details of the patients in the study.

Age in Years		Percentage
Age in Years		55.75±10.34
Gender	Male	68 (60.17%)
	Female	45 (39.82%)
Socio-economic Status	Poor	32
	Middle	75
	High	06
Place	Uban	68
	Rural	26
Living conditions		2(1.7%)
Gender	Male	111(98.2%)





Discussion

Pre-hospital delay has been labeled as a major factor for prognosis of patients with stroke. Various studies

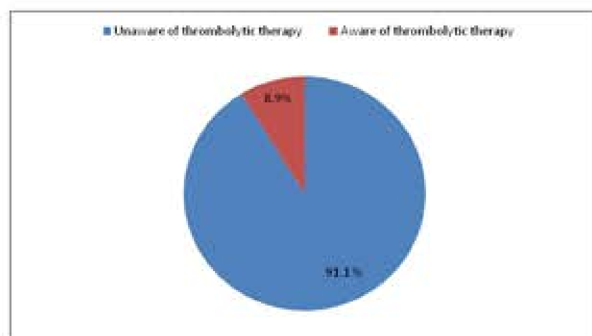


Fig-3: Showing percentage of Public awareness about thrombolytic therapy

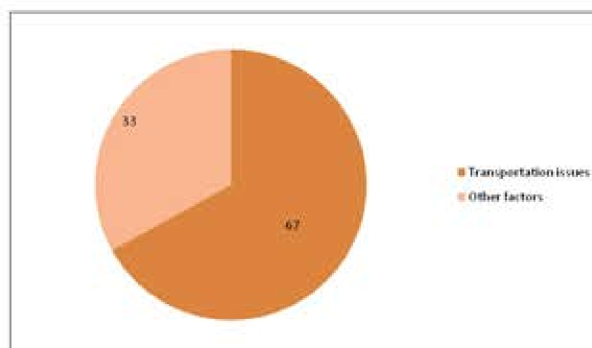


Fig-4: Showing percentage of patients depicting causative factors of Pre-hospital delay

have been done as to label cut-off point for early Versus late arrivals. Some studies have kept this time as 2-hours (door to needle time)[6] while others have kept 3 hours as a cut-off point.[7] In developed countries, this time has been even brought to 20 minutes. After the landmark Economic Community of Central African States (ECCAS) III trial, different studies have extended the cut-off level for thrombolytic therapy upto 4.5 hours.[8] Various studies have been done to find out the factors related to pre-hospital delay. In a Chinese study, it was found that patients >65 years of age and female patients were more likely to arrive early than younger patients and males.[9] Also Ashraf and colleagues found that higher educational status and those from the city had shorter pre-hospital delays.[10] In another study Kothari *et al.,* also found that level of stroke knowledge had no notable impact on prompt ED arrival.[11] In our study when asked about a single cause of delay to reach the hospital, most common answer was traffic problem. It seems to be true if we analyze the traffic system of the Pakistan and particularly Lahore, where this study was conducted. But as stroke most commonly occurs during night time, this problem seems to be a lame excuse because during night times, there is minimal traffic on the roads and there must be other factors behind this delay which need to be sought out. A similar study in Pakistan had been done by one of the authors previously about 20 years ago. When our results were compared with that study, it was found that over 20 years, some changes have occurred in our society regarding pre-hospital delay.[12] As in our current study, we found that 7.9% of patients presented within 6 hours of the start of symptom while in previous study there were 4% of the patients in this group. Similarly those reaching in 6-12 hours were 19.4% as compared to 14% in previous study. Patients with 12-24 hours pre-hospital delay were 41.5% in this study while there were 34% patients in previous study. Those having pre-hospital delay more than 24 hours were 30.9% in current study while there were 48% of patients in previous study (**Figure-3).** This clearly shows that pre-hospital delay has been decreased over the time in our population. This may be due to better ambulance services in Pakistan, more awareness and knowledge of patients, better referral and better roads and traffic system over 20 years of period. In BEATS study, Wilson AD and colleagues found that better traffic control and good ambulance service is an important factor to improve pre-hospital delay in patients with stroke.[13] The limitation of our study was that it was a single-center trial and also with limited number of patients. We also have not evaluated other causes of Pre-hospital delay in our patients. On the basis of this study we have concluded that as early presentation is a prerequisite for thrombolysis for acute ischemic stroke so educational/awareness programs that increase public awareness of the need to seek medical help promptly after stroke should be developed. At the same time, measures to improve the traffic sense should also be undertaken so that maximum of our patients could get benefit of PA therapy after stroke.

Conclusion

Because early presentation is a prerequisite for thrombolysis for acute ischemic stroke we recommend to start educational programs that increase public awareness of the need to seek medical help promptly after stroke and word stroke should be replaced with brain attack and measures to improve the traffic sense should also be undertaken.

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Original Article

COMPARISON OF MEAN DURATION OF BRONCHIOLITIS IN CHILDREN RECEIVING STANDARD TREATMENT WITH AND WITHOUT INTRAVENOUS STEROIDS

Aamer Naseer Qureshi, Humayun Iqbal Khan and Afsheen Mahboob

Objective: To compare mean duration of bronchiolitis in children receiving standard treatment with and without intravenous steroids.

Material and Methods: The study was conducted at the department of Pediatrics Services Hospital Lahore. The duration of the study was six months from 1st July 2013 to 31st December 2013. After informed consent and ethical approval, 140 children aged 2-24 months presenting with bronchiolitis i.e. complaints of fever > 80 C, coryza, wheezing and tachypnea were included by non-probability consecutive sampling. Seventy cases were assigned randomly to either intravenous steroids or placebo group by using random number table. Children having history of prematurity and mechanical ventilation in newborn period, more than one episode of respiratory distress in past, family history of asthma or chronic cardiovascular conditions like congenital heart diseases were excluded. Duration of hospital stay was measured in days starting from the day of admission till the resolution of wheezing and tachypnea. Data was documented on structured proforma and analyzed using SPSS 21. Difference in mean duration of wheezing, tachypnea and bronchiolitis in treatment and placebo groups was compared using independent sample t test. A p - value <0.05 was considered as significant

Results: One hundred forty children (53% male with mean age 8.9 ± 6.4 months) were included. Age and sex distribution was similar in both treatment and placebo groups. When mean duration of bronchiolitis / hospital stay was compared between treatment and placebo group the result was in-significant. (P value= 0.104).

Conclusion: It is concluded that there is no difference in mean duration of bronchiolitis in children receiving intravenous steroids and those not receiving steroids.

Keywords: Bronchiolitis, Intravenous steroids, Hospital stay, Duration of Bronchiolitis

Introduction

The definition for bronchiolitis in most clinical studies is the first episode of wheezing in a child younger than 24 months who has physical findings of a viral respiratory infection and has no other explanation for the wheezing, such as pneumonia or atopy.[1,2]

It is estimated that each year as many as 1, 26,000 infants are hospitalized in the US due to bronchiolitis.[3] Worldwide, as many as 1/200 infants are hospitalized annually for treatment of LRTI, with a mortality rate as high as 5%.[4]

In Pakistan acute respiratory illness (ARI) is the leading cause of death accounting for 20% - 30% of all deaths under 5 years.[5]

Bronchiolitis is an infection typically caused by virus. The disease caused by specific viruses varies depending upon the season and the year.[6] Respiratory syncytial virus (RSV) is the most common cause, followed by rhinovirus. Less common causes include parainfluenza virus, human metapneumovirus, influenza virus, adenovirus, coronavirus, and human Boca virus (discovered in 2005).[7] With molecular diagnosis, co-viral infections may occur in approximately one-third of young children hospitalized with bronchiolitis.[8] In addition, LRTI and wheezing episodes in infants occasionally are associated with Mycoplasma pneumonia.

Bronchiolitis typically affects infants younger than two years, mainly during the winter months[9]

Corticosteroids are used to treat bronchiolitis as an anti-inflammatory therapy. In some places their use may be as high as 60 %, in inpatient departments. Theory suggests that steroids have a role in reducing inflammations in the lower airway passages caused by viral agents, for this reason they are widely prescribed by the physicians.[10]

The pathological theory suggests that the anti-inflammatory action of corticosteroids might relieve the severity of bronchiolitis and its duration but the majority of clinical studies have failed to prove this.[11] Since no such work have been performed

In Pakistan, so we conducted this study to compare mean duration of bronchiolitis in children receiving standard treatment with and withoutIntravenous steroids.

Material And Methods

It was a randomized controlled clinical trial which was conducted in the department of Paediatrics, Services Hospital, Lahore. The duration of study was 6 months i.e from 1st July to 31st December 2013. One hundred forty subjects (70 cases and control each selected at 95% confidence interval and 80% power of test and taking magnitude (mean± SD) of duration of bronchiolitis with intravenous steroids supplemented group and placebo group 4.7 ± 1.97 and 4.97 ± 2.43 respectively. The inclusion criteria included children aged 2-24 months, both genders, clinical diagnosis of bronchiolitis as evident by fever>80C, coryza, wheezing and tachypnea. Exclusion criteria included history of more than one episode of respiratory distress in past, presence of chronic cardiovascular conditions like congenital heart diseases diagnosed on chest X-ray and echocardiography, history of prematurity and mechanical ventilation at the time of birth and family history of asthma. One hundred forty cases of bronchiolitis meeting the inclusion criteria were selected. Informed consent was taken from parents/attendants. Approval was taken by ethical committee of the hospital. Cases were registered for study and demographic information of patients (name, age, sex, address) was obtained on a structured proforma. Detailed history was taken from patient/guardian along with a complete physical examination.

Cases were randomly assigned to either treatment group by using random number table. The patients were divided into 2 groups "A" and "B". The groups "A" and "B" received either intravenous hydrocortisone (10mg/kg/day) or placebo in thrice daily doses for 7 days. The study was double blind i.e. neither the patient nor the assessor knew about treatment. Both solutions were packed in identical looking bottles. Standard conventional treatment of bronchiolitis was provided to both groups including oxygen inhalation and supportive therapy. Cases were assessed for wheezing and tachypnea and the findings were recorded daily till the resolution of bronchiolitis. At the end of study, codes were decoded. All the information i.e. duration of wheezing, tachypnea and bronchiolitis was recorded on the structured proforma.

The collected data was analyzed by using SPSS 21. Frequency and percentages were calculated for the qualitative variables like gender and mean and standard deviation was calculated for quantitative variables like age and duration of symptoms. Difference in mean duration of wheezing, tachypnea and bronchiolitis in treatment and placebo groups was compared using independent sample t test. A p value < 0.05 was considered as significant. To determine the effect of age and gender in both groups, the data was stratified and cross tabulated for age groups and gender against duration groups for symptoms.

Results

One hundred forty children were included in the study with mean age 8.9 ± 6.4 months ranging from 2 to 23 months. Seventy four children (53%) were male (Fig-1). Average duration of wheeze was 4.2 ± 1.9 days almost having a normal distribution. Similarly tachypnea remained in all patients for 4.6 ±1.4 days with normal distribution. The average duration of hospital stay i.e. duration of bronchiolitis in all admitted patients was 4.9 ± 1.5 days ranging from 2 to 9 days **(Table-1**).

When mean duration of hospital stay was compared between treatment and placebo groups the difference was statistically non-significant (P value = 0.104) while using independent samples t test. Similarly when mean duration of tachypnea and wheezing was compared in both groups, the difference was statistically non-significant (P = 0.471) **(Table-2).**

To determine the effect of age and gender on duration of wheeze, tachypnea and bronchiolitis in both groups, data was grouped analyzed. Forty eight percent children were below 6 months. Fifty six percent children developed wheeze for less than 4 days. Similarly 54% patients suffered from tachypnea for less than 4 days. Fifty six percent children stayed in the hospital for more than 4 days.

When duration of wheeze and treatment groups were cross tabulated results were non-significant (p value = 0.73). However there was significant relation between age and duration of wheeze. (P = 0.003).

Gender had non-significant role in duration of wheezing (p value = 0.938) and tachypnea (p value = 0.654) among 140 patients. But age groups has significant relation with duration of tachypnea showing increased duration in older age groups (P = 0.06) and duration of hospital stay/bronchiolitis (p value=0.001) showing the older children are more prone to have longer duration of disease **(Table-3).**

Table-1: Summary statistics of all variables.

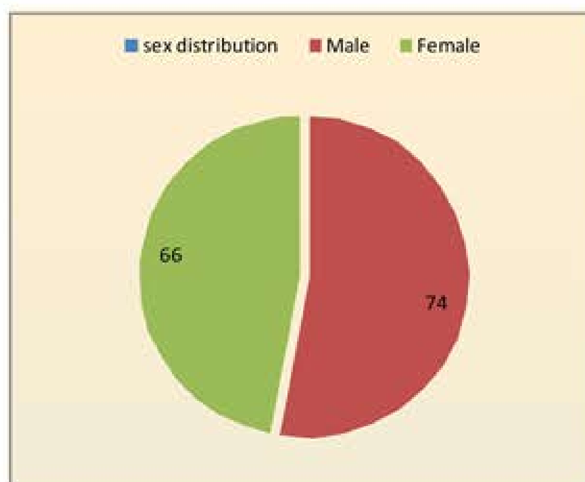
		IV Steroid group	Place be group	Significant difference
Mean age in months		8.3±6.1	9.5±6.6	P value=0.263
Gender	Male:	39 (55.7%)	35 (50%)	P value= 0.498
	Female:	31 (44.3%)	35 (50%)	
Lenght of stay		5±1.58	4.87±1.34	P value=0.604
Dur. of Wheeze		4.07±2.1	4.26±1.8	P value=0.535
Dur. Of Tachypnea		4.7±1.4	4.5±1.3	P value=0.471

Table-2: Comparison of treatment and placebo groups .

		More than 4 days	Less than days	P value
Duration of Hospital Stay	Treatment Group	39 (54.6%)	39 (54.6%)	1.00 Non-significant
	Placebo group	31(45.4%)	31 (45.4%)	
Duration of Tachypnea	Treatment Group	35 (50%)	30 (42%)	0.397 Non-Significant
	Placebo group	35 (50%)	40 (58%)	
Duration of Wheeze	Treatment Group	30 (42%)	32 (44.8%)	0.73 Non-Significant
	Placebo group	40 (58%)	38 (55.2%)	

Table-3: Comparison of age with treatment and placebo groups.

	Age	More than 4 days	Less than days	Total	P value
Duration of Hospital Stay	Less than 6 months	28 (41.8%)	39 (58.2%)	67	0.001 Significant
	More than 6 month	50 (68.%)	23 (31.5%)	73	
Duration of Tachypnea	Less than 6 months	23 (34.3%)	44 (65.7%)	67	0.006 Significant
	More than 6 months	42 (57.5%)	31 (42.5%)	73	
Duration of Wheeze	Less than 6 months	21 (31.4%)	46 (68.6%)	67	0.008 Significant
	More than 6 months	41 (56.1%)	32 (43.9%)	32	



Discussion

Bronchiolitis is considered a serious disease having fatal complications in early childhood. Our study population depicts that it is much more prevalent in first 6 months of life as the mean age in our study population came out about 9 months.

Average duration of wheeze and tachypnea was normally distributed showing the disease is self-limiting. It also explains that the most common causes of bronchiolitis are viral which settles over time. Average duration of bronchiolitis and hospital stay was about 5 days showing a heavy burden and cost in underdeveloped countries like ours. As the population was randomly assigned to intravenous steroid and placebo groups, age distribution remain

same in both groups.

We usually over prescribe patients presenting with bronchiolitis because of the fear of complications. Intravenous steroids are lifesaving drugs which should be used with great caution to reduce the complications. The available evidences shows controversy in the use of steroids in bronchiolitis.[12]

In this study we use the length of hospital stay as a parameter to determine the efficacy of the steroids in bronchiolitis. When randomly assigned patients were evaluated the difference in mean duration in both groups was not statistically significant showing no added benefit of steroids on the duration of bronchiolitis/hospital stay.

Additionally we calculated the effect of steroid on two leading diagnostic symptoms i.e. wheezing and tachypnea. The mean duration of these symptoms was same in steroid versus placebo group

We came across that only age groups have some significant effect on duration of symptoms. According to our study, in patients older than 6 months of age there is increase in the duration of hospital stay ($p = 0.001$), duration of tachapnea ($p = 0.006$) and duration of wheeze ($p = 0.008$) as compared to patients younger than 6 months of age. These results are consistent to the study performed by Alansari et al [13] which shows that there is 31% reduction in the duration of symptoms in the children having median age of 3.5 months. It means that older patients are more prone to prolongation of wheezing and tachypnea as compared to younger age group. Our study shows that there no reduction in hospital stay in the babies receiving steroids (5±1.5 days) as compared to placebo group (4.87±1.3 days). Teeratakulpisarn et al[14] reported that there is decrease in the mean length of hospital stay of 13.4 hr ($P = 0.02$) in patients receiving steroids as compared to placebo group. This difference may be due to the fact that in the said study dexamethasone was used, which is more potent steroid than hydrocortisone, used in our study.

Conclusion

It is concluded that there is no difference in mean duration of bronchiolitis and length of hospital stay in children receiving intravenous steroids than those not receiving it along with standard therapy. Hence the use of intravenous steroid is not evidence based and should be discouraged. Many confounding factors like non availability of high technology laboratory hindered our work in knowing the levels of steroids to make our evidence more recommendable.

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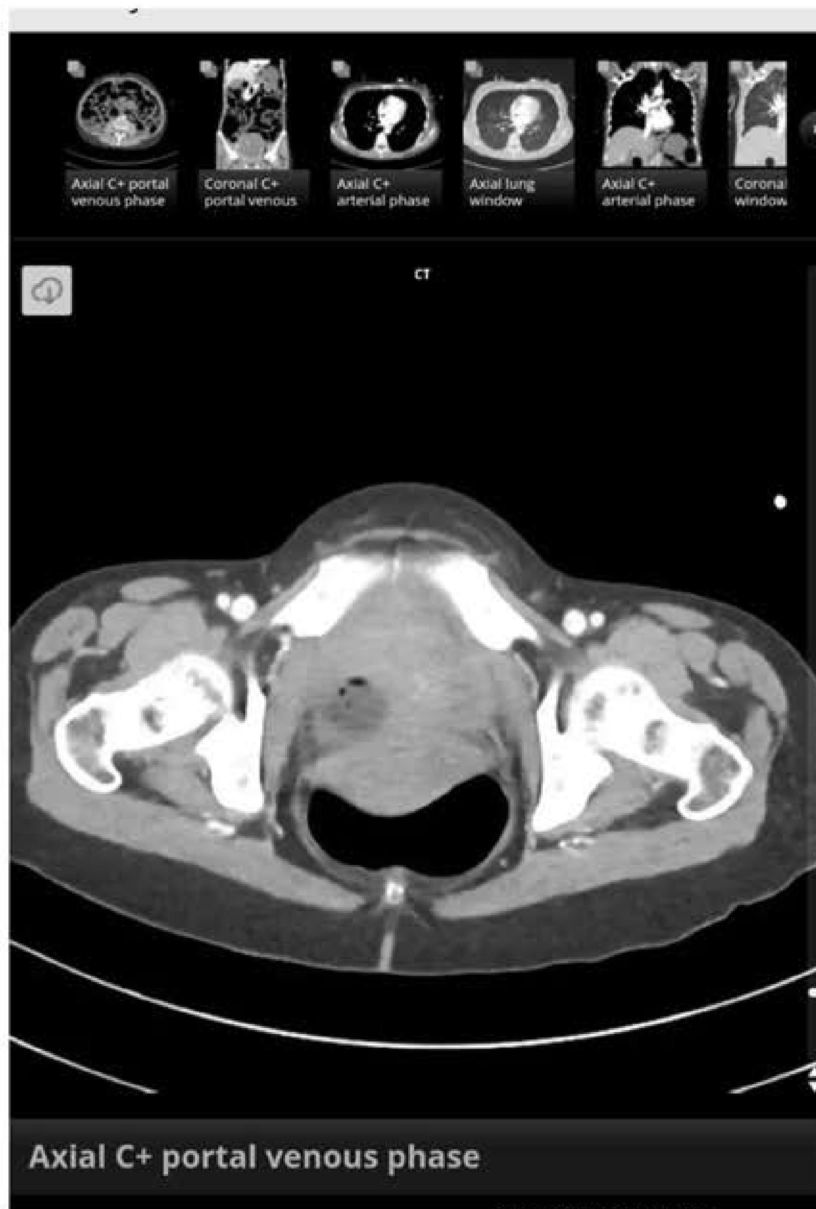
Picture Quiz

WHAT IS THE DIAGONOSIS?

50 years old unconscious patient collapsed with GCS 3 in Emergency department where he presented with history of abdominal pain and vomiting. What has happened to the below?



See answer page #15

Original Article

IMPAIRMENT OF RENAL FUNCTION IN NON-PROTEINURIC DIABETIC PATIENTS

Muhammad Imran, Hamid Javaid Qureshi, Uzma Zargham, Muhammad Usman Bashir and Zulfiqar-ul-Hassan

Objective: To evaluate renal function in non-proteinuric diabetic patients.

Material and Methods: It was a descriptive analytical study, conducted in University of Health Science Lahore, from February 2010 to January 2011, with a sample size of 195 diabetic subjects. They were divided equally among normoalbuminuric, microalbuminuric and macroalbuminuric groups, according to their daily urinary albumin excretion rate (AER), with 65 patients in each group. Their renal function status and GFR was evaluated by conducting tests on serum and urine samples.

Kruskal-Wallis test and Mann-Whitney U test were used to observe differences of medians in different groups. p value less than 0.05 was taken statistically significant.

Results: There was predominance of males in microalbuminuric and macroalbuminuric groups while females were more in number in normoalbuminuric group. Majority of normoalbuminuric individuals were unmarried, while married individuals were prevalent in microalbuminuric and macroalbuminuric group. Significant differences were found in serum urea concentration, serum creatinine concentration, serum uric acid concentration, glomerular filtration rate, urinary creatinine concentration, urine flow rate, daily albumin excretion rate and urinary albumin concentration among the three groups. Urinary creatinine concentration and glomerular filtration rate were in the highest ranges in normoalbuminuric group and in the lowest ranges in macroalbuminuric group. While rest of the parameters (ie. age, duration of diabetes, serum urea concentration, serum creatinine concentration, urine flow rate, daily AER , urinary albumin concentration and serum uric acid concentration) were in the lowest ranges in normoalbuminuric group and in the highest ranges in macroalbuminuric group. There was significant renal function impairment in microalbuminuric stage of diabetic nephropathy. $p < 0.05$ was taken statistically significant.

Conclusion: It is concluded that impairment in renal function occurs even in microalbuminuric stages of diabetic nephropathy. Renal functions are impaired even in the diabetic patients who have not yet developed frank proteinuria.

Keywords: Diabetic nephropathy, Proteinuria, Renal function, Glomerular filtration rate.

Introduction

Diabetic nephropathy (DN) accounts for about 40% of new cases of end-stage renal disease (ESRD) in the United States (ADA, 2004)[1] and it is the leading cause of diabetes related morbidity and mortality (Powers, 2008)[2]. Diabetic nephropathy (DN) is staged on the basis of degree of urinary albumin excretion rate (AER) per day. According to American Diabetic Association (ADA), DN is classified in terms of microalbuminuria (or incipient nephropathy) (urinary AER: 30-299 mg/day); and macroalbuminuria (or overt nephropathy) (urinary AER: ≥300 mg/day) (ADA, 2004)[1]. A more extensive classification has been proposed by Mogensen (1997)[3] and is now generally accepted for both research and clinical purposes **(Table-1).** The complex pathogenesis for the development of DN is not fully clarified (Parving et al, 2004)[4].

Stages of Diabetic Nephropathy:

Stage -1: Glomerular hypertension and hypertrophy

Stage-2: Silent stage with normoalbuminuria (AER: < 30 mg/24 hours)

Stage-3: Incipient diabetic nephropathy or microalbuminuria (AER: 30-300 mg/24 hours)

Stage-4: Overt diabetic nephropathy or macroalbuminuria (AER: > 300 mg/24 hours)

Stage -5: End stage renal disease (Mogensen, 1997)[3]

But like other microvascular complications, the pathogenesis of DN is related to chronic hyperglycemia. The mechanisms by which chronic hyperglycemia leads to ESRD, though incompletely defined, involve the effects of soluble factors, hemodynamic alterations in the renal microcirculation and structural changes in the glomerulus (Powers, 2008)[2]. Hyperglycemia can lead to the activation of oxidative stress and increased

Production of reactive oxygen species (Ruggenenti *et al.*, 2010).[5] The earliest functional abnormality in diabetic kidney is renal hypertrophy associated with raised glomerular filtration rate (GFR). This appears soon after diagnosis and is related to poor glycaemic control. As the kidney becomes damaged by DM, the afferent arteriole becomes vasodilated to a greater extent than the efferent arteriole. This increases the intraglomerular filtration pressure, further damaging the glomerular capillaries. This increased intraglomerular pressure also leads to increased shearing forces locally which are thought to contribute to mesangial cell hypertrophy and increased secretion of extracellular mesangial matrix material. This process eventually leads to glomerular sclerosis. The initial structural lesion in the glomerulus is thickening of the basement membrane. Associated changes result in disruption of the protein cross-linkages which normally make the membrane an effective filter. In consequence, there is a progressive leak of large molecules, particularly proteins, into the urine (Gale and Anderson, 2009)[6]. The earliest evidence of this is 'microalbuminuria' in which the amount of urinary albumin is so small as to be undetectable by standard dipstick. At the later stage of glomerulosclerosis, the glomerulus is replaced by hyaline material. A rise in plasma creatinine is a late feature that progresses inevitably to renal failure, although the rate of progression may vary widely between individuals (Gale and Anderson, 2009)[6]. After 5-10 years of type 1 DM, 40% of individuals begin to excrete small amounts of albumin in the urine. Microalbuminuria is defined as 30-300 mg/day in a 24 hour collection or 30-300 μg/mg creatinine in a spot collection. Although the appearance of microalbuminuria in type 1 DM is an important risk factor for progression to overt proteinuria (>300 mg/day), only 50% of individuals progress to macroalbuminuria over the next 10 years **(Figure 1).** The relationship of time from onset of diabetes, the glomerular filtration rate, and serum creatinine are shown. (Powers, 2008)[2]

Once macroalbuminuria is present, there is a steady decline in GFR, and 50% of individuals reach ESRD in 7-10 years. Blood pressure rises slightly and the pathologic changes are likely irreversible. Some individuals with type 1 or type 2 DM have a decline in GFR in the absence of micro- or macroalbuminuria and this is the basis for assessing the GFR on an annual basis (Powers, 2008)[2]

Renal function changes in DN conventionally have been linked to progression of urinary AER. More contemporaneous research findings have challenged this paradigm. Rather, the process of renal function loss appears to begin prior to the onset of proteinuria. The lower limit of normal GFR is considered as 90 mL/min/1.73 m2. GFR decreases with advancing kidney disease (NKF, 2002)7 and may be impaired even before macroalbuminuria starts (Rosolowsky et al, 2008)8. Detection of renal function decline before the development of macroalbuminuria may be helpful for initiating preventive measures so as to delay the advanced kidney disease.

Materials and Methods

It was a descriptive, analytical study, conducted in the Department of Physiology and Cell Biology, University of Health Sciences, Lahore. The study span was one year.

A target population of 195 diabetic subjects was selected according to inclusion and exclusion criteria, and was categorized into 3 groups, as follows:

Group A: 65 macroalbuminuric diabetics.
Group B: 65 microalbuminuric diabetics.
Group C: 65 normoalbuminuric diabetics.

Convenient sampling was done among the diagnosed registered cases of type 1 and type 2 diabetes mellitus from SIMS, Lahore.

The subjects selected were:

Diagnosed patients of diabetes mellitus. Both male and female patients irrespective of age. The subjects with following conditions were excluded:

Current use of diuretics or uricosuric drugs.
Urinary tract infection.
Serum creatinine > 2 mg/dL.

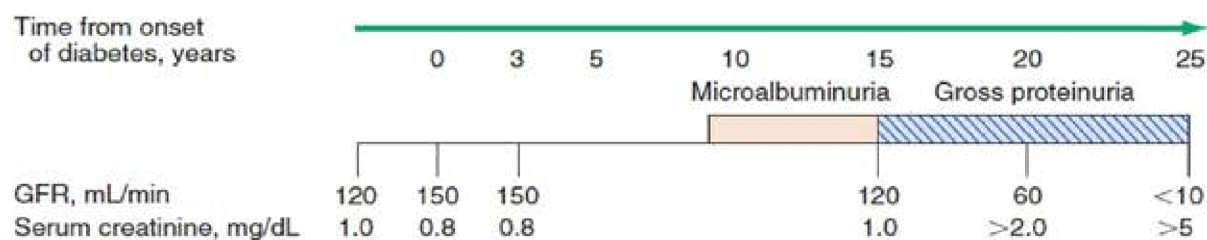


Figure-1: Time course of development of diabetic nephropathy.

Overt kidney disease, other than diabetic nephropathy.
Gout.
Diabetic patients were selected from the medical wards and diabetic clinics of the tertiary care hospitals of Lahore and medical record of every patient was evaluated for any concomitant medical condition (gout) or any overt kidney disease other than diabetic nephropathy. After getting written informed consent, the demographic data of all the subjects was collected and every individual was assessed by taking history and performing physical examination, using specially designed questionnaire. Blood and urine samples were taken. Patient's urine was assessed for proteinuria on the bedside, with the help of Urinalysis Reagent Strips. Proteinuric state determined that the patient was having macroalbuminuria (frank proteinuria), while non-proteinuric state determined that the patient was either having microalbuminuria or normoalbuminuria. So for the quantitative, accurate and final determination of albumin levels in the urine, more sensitive technique of radioim- munoassay was used on 24 hour urine sample. GFR was calculated using the formula: GFR = U.V/P.
The data was entered into and analyzed by SPSS (Statistical Package for Social Sciences) version 17.0. Kruskal-Wallis test and Mann-Whitney U test were used to observe differences of medians in different groups. P value less than 0.05 was taken statistically significant.

Results

All three groups were compared for demographic data as well as renal functions parameters. Following results were obtained:

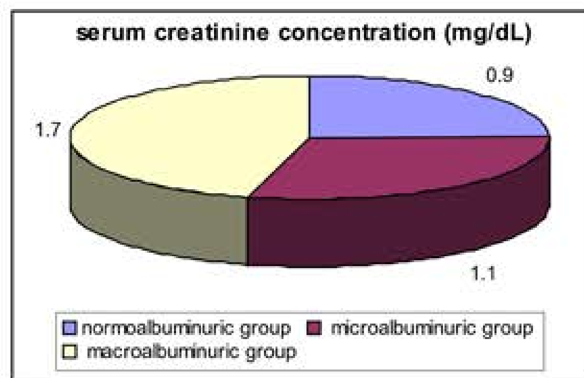


Figure-1: Comparison of serum urea concentration among normoalbuminuric, microalbuminuric and macroalbuminuric group. p <0.001.

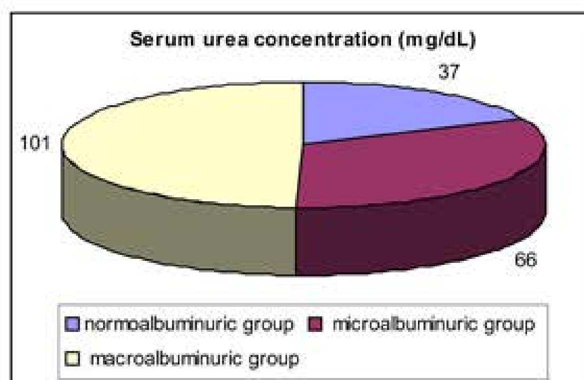


Figure-2: Comparison of serum creatinine concentration among normoalbuminuric, microalbuminuric and macroalbuminuric group. p <0.001.

Discussion

The results of the study showed remarkable differences in various parameters among the three groups. Overall, macroalbuminuric group was the worst in renal function parameters among the three

Table-1: Comparison of demographic data of three groups.

Variables	Normoalbuminuric Group (n=65)	Microalbuminuric Group (n=65)	Macroalbuminuric Group (n=65)	P-value
Gender	Male: 26 (40%)	Male: 51 (78.5%)	Male: 44 (67.7%)	<0.001
	Female: 39 (60%)	Female: 14 (21.5%)	Female: 21 (32.3%)	<0.001
Marital status	Married: 16 (24.6%)	Married: 61(93.8%)	Married: 65 (11%)	<0.001
	Unmarried: 49 (75.4%)	Unmarried: 04 (6.2%)	Unmarried: 0 (0%)	<0.001
Median Age (Years)	21	36	55	<0.001
	(18-24.5)*	(33.41)*	(49.57)*	
Median duration of DM (year)	04	11	20	<0.001
	(2-5)	(9-12)*	(15-24.5)*	

Table-2: Comparison of renal function tests of three groups.

Variables	Normoalbuminuric Group (n=65)	Microalbuminuric Group (n=65)	Macroalbuminuric Group (n=65)	P-value
Median Serum urea concentration (mg/dL)	37	66	101	<0.001
	(28.5 - 46.5)*	(58 - 73)*	(87.5 - 50.5)*	
Median serum creatinine concentration (mg/dL)	0.9	1.1	1.7	<0.001
	(0.8 - 0.95)*	(1.1 - 1.1)*	(1.6 -1.9)*	

Groups. However the differences existed in every parameter of study. Although the number of females was greater in normoalbuminuric group, where they were constituting $3/5^{th}$ of the subjects, the males clearly outnumbered females in rest of the two groups. In microalbuminuric group, males were nearly $4/5^{th}$ and in macroalbuminuric group, they constituted slightly more than $2/3^{rd}$ of the subjects in the group. The higher percentage of males in the groups which were having advanced stage of DN may reflect that the prevalence of DN may be greater in male individuals of the society, and therefore they presented in higher numbers in tertiary care hospitals and had greater chances of being selected as study subjects. Hovind et al. in 2009 worked on patients with DN and majority of the subjects in all three groups in their study were males, with 56% in normoalbuminuric, 67% in microalbuminuric and 70% in macroalbuminuric group[9]. The marital status also exhibited a peculiar trend in the present study. The married subjects in normoalbuminuric group were only about one fourth of the total diabetics in the group but they exceeded 90% of the cases in microalbuminuric group and there was even no unmarried subject in macroalbuminuric group. This is also consistent with the fact that the unmarried subjects were younger and had less advanced disease and vice versa. Although marital status does not directly alter the course of DN but it is suggestive of the age of the individual which is directly correlated with the stage of DN. In the present study, the median age of the normoalbuminuric group was only 21 years as compared to 36 years in microalbuminuric group and 55 years in macroalbuminuric group. This also suggests advanced disease in older age group and mild changes in younger age group. The median duration since the diagnosis of DM in the subjects was less (only 4 years) in normoalbuminuric group as compared to microalbuminuric group (11 years) and macroalbuminuric group (20 years). The AER showed a wide range of values among the three groups. This was the parameter on which all the subjects were divided into three different groups. There was significant difference of renal function status among the three groups. Also significant negative correlation was found between AER and GFR in normoalbuminuric and macroalbuminuric groups. However, there was no significant correlation between the two in microalbuminuric group. The renal function status was assessed by estimating the GFR, serum urea and creatinine levels. The GFR significantly differed among the three groups which is consistent with the previous work (Rigalleau et al., 2007)[10]. Also the GFR was inversely correlated with the albuminuric state in the normoalbuminuric and macroalbuminuric groups. Rigalleau et al. in 2007 observed that GFR has a declining trend from normoalbuminuric to macroalbuminuric stage, in the start of their study, as well as at the end of it. They calculated GFR from MDRD equation, which is an estimated GFR (eGFR) rather than real values obtained by measuring urinary creatinine concentration in 24 hour urine. But for the current discussion, their values give sufficient evidence of renal function decline over the stages of DN. So their findings are consistent with our results in this regard. But for better and more descriptive results, a follow up study is required in our set up. Also Rosolowsky et al. in 2008 determined GFR by cystatin c method in normoalbuminuric and microalbuminuric subjects in their study of 675 subjects and reported that although mean GFR was not abnormally low in the microalbuminuric group, but it did decrease to a statistically lower value than that of normoalbuminuric subjects. GFR depends on various factors: urine flow rate, daily water intake, dietary protein and even the temperature of the environment. These factors may be different in different countries, and even different regions in the same country. So although the reference range of GFR is taken to be 80-130 mL/min/1.73 m^2 (Granerus and Aurell, 1981)[11], the normal values must be described for every region and ethnic group of the world, especially for our country, in order to have a clear picture of the normal and abnormal values.

With the advancing stage of DN, GFR decline occurs at the rate of 10 mL/min/decade (Granerus and Aurell, 1981)[11]. In our study this correlation was also found in normoalbuminuric and macroalbuminuric group but not in microalbuminuric group. This finding prompts us to further evaluate our population for improving our diagnosis and treatment of DN. ADA now recommends screening of chronic kidney disease (CKD) in diabetic patients, based both on daily AER and GFR (Kramer and Molitch, 2005).[12] Serum urea and creatinine are also parameters of renal function status. They are taken to be routine markers for renal function decline and therefore have been incorporated in various equations of GFR calculation (Bostom et al., 2002).[13] In our study, serum urea and serum creatinine gave expected results in relation to stages of DN. These parameters were significantly different among the three groups with the lowest values in normoalbuminuric group and highest values in the macroalbuminuric group. Serum urea and creatinine were increased even in microalbuminuric patients. Serum creatinine is of particular importance, because it is also used for indirect measurement of GFR and has been used by various researchers for this purpose. Creatinine clearance is a routine but not perfect marker of renal function status and GFR, because a small amount of it is secreted by the tubules, so that the amount of creatinine excreted slightly exceeds the amount filtered. On the other hand, there is normally a slight error in measuring plasma creatinine, that leads to an overestimation of the plasma creatinine concentration. These two errors tend to cancel each other, so that the creatinine clearance provides a reasonable estimate of GFR (Hall, 2011)[14]. The values of serum creatinine were given in µmol/L in majority of the research works, with the conversion method being to divide the value of µmol/L by 88.4 to obtain values in mg/dL. As daily AER increases, serum creatinine rises while there is concomitant decline in the GFR. These results are in consistent with the previous work done by Perkins et al. in 2007, in which one third of the microalbuminuric population in their study had early progressive renal function decline[15].

Conclusion

It is concluded that impairment in renal function occurs even in microalbuminuric stages of diabetic nephropathy (ie. before the development of frank proteinuria). Renal functions are impaired even in the diabetic patients who have not yet developed frank proteinuria.

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Answer Picture Quiz

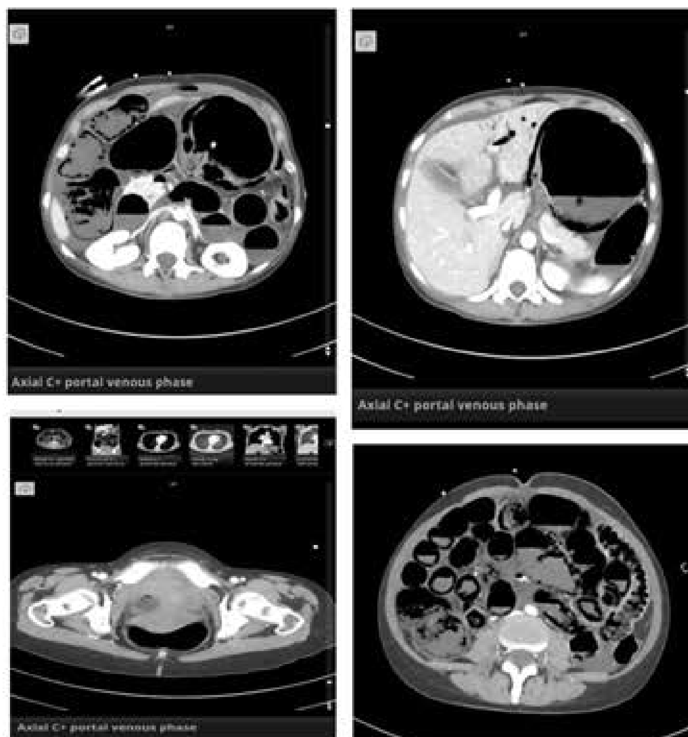
Extremely extensive new necrosis is demonstrated involving the stomach, the entire small bowel, and right side of colon extending totb the splenic flexure. There is no appreciable neural enhancement. Extensive portal vein, with extensive gas filling of branches of the left portal vein within the liver. The descending colon and sigmoid colon appear unremarkable, with normal enhancing walls. Part of the stomach mucosa appeared to enhance, PEG in situ.

The celiac trunk, superior mesenteric artery, and inferior mesenteric artery opacify normally, with no thromboembolism or occlusion evident. The abdomen appears distended, with compression of the IVC.

A 10 cm pelvic mass is present, which is smaller and hypodense compared to earlier CT scans from last year-? Degenerative fibroid. The kidneys, liver, pancreas and spleen are normally in appearance.

Conclusion:

Very extensive necrosis involving the stomach, small bowel and right-sided colon. Portal venous gas.



Original Article

EFFICACY OF SINGLE ROD CONTRACEPTIVE IMPLANT: IMPLANON

Noreen Rasul and Rubina Sohail

Objective: To evaluate the efficacy of implanon in women in post partum period.
Material and Methods: The Study was carried out in one year period from 01-01-14 till 31-12-14, in Gynae Unit-II, Services Institute Of Medical Sciences /Services Hospital Lahore. Women recruited were within three days after child birth. First followup was advised after one week and then at six weeks.
Results: Total 152 patients had implanon insertion in one year period. Total births were 3502, caesarean section 1804 & spontaneous vaginal delivery 1698. Among side effects irregular bleeding in 37 (24.3%) patients, expulsion 7 (4.6%), weight gain 12 (7.8%), mood changes 15 (9.8%) and no pregnancy occurred in one year follow up.
Conclusion: Implanon demonstrated excellent contraceptive efficacy and was well tolerated.
Keywords: % percent, Yrs years.

Introduction

Diabetic neImplanon has the highest efficacy among available contraceptive methods[1] Optimal efficacy is due to the mechanism of action, which is ovulation inhibition combined with the fact that the method is independent of user compliance.

It is a single rod subdermal contraceptive implant made by Merck & Co that is inserted just under the skin of a women's upper arm and contains etonogestrel.[2] Implanon has 15mg barium sulphate added to core, so detectable by X-ray.[3] It has preloaded applicator for easier insertion.[4] Implanon was first approved for use in Indonesia in 1998. Then approved for use in United States in 2006. Subdermal contraceptive implants are now used by 11 million women around the world and approved for use in over 60 countries in 2003.[5] Implanon consists of a single rod made of ethylene vinylacetate copolymer that is 4 cm long and 2 mm in diameter.[6] It is similar to a match stick in size. The rod contains 68 mg of etonogestrel (sometimes-called 3 keto-destrogestrel) a type of progestin. Peak serum etonogestrel concentrations have been found to reach 781-894 pg/ml, in first few weeks and 156-177 pg/ml after 3 years, maintaining ovulation suppression and contraceptive efficacy.[7]

Serum levels maintain relatively stable through 36 months, which implies that the method may be effective for longer than 3 years.[8] During 3 years, pregnancy did not occur.[8] Implanon is effective in 99% cases to prevent pregnancy in the duration of 3 years.[(8)] Implanon releases progestogen, that is synthetic hormone. It prevents ovulation and thickens the mucus of cervix. The thickened mucus prevents the sperm and egg from fertilization.

Among addvantages, it is reversible contraception. Once rod is removed, again pregnancy can occur.[9] The rod is extremely subtle. In disadvantages, implanon can cause irregular bleeding and spotting. Pain and scarring can be associated with the insertion rod removal of implanon. It may not work in obese women. There is increased risk of thrombosis especially in smokers, ovariam cyst, headach, weight gain, depression, acne and breast pain. It cannot protect against sexually transmited diseases. Women who are being treated for hyper lipidemias, should be followed closely if they use hormonal contaceptive. Some progestogens may elevate LDL levels. Implanon should not be used in women who have known or suspected pregnancy, current or past history of thrombosis or thrombo embolism disorders, liver tumours, benign or malignant, active liver disease undiagnosed abnormel uterine bleeding and breast cancer.[10]

Material and Methods

The study was carried out in the department of obstetrics and gynaecology unit II, Services Institute of Medical Sciences / Services Hospital Lahore between 1-Jan-2014 to 31st-Dec-2014.

Counselling was done in antenatal period in booked patients and then in latent phase of labour and postnatal period. In unbooked patients counselling was done after delivery of placenta.Written Consent was taken from husband and mother-in-law. Within three days of delievery implanon insertion was done. Patient was called for followup first after one week and then after six weeks. Patient was disscused about

About side effects like irregular bleeding, weight gain, expulsion & about failure rate.

Exclusion Criteria:
- Nulliparous Woman.
- Smoker.
- Patients suffering from liver disease.
- Previous history of deep venous thrombosis.

Inclusion Criteria:
- Cardiac patients.
- Hypertensive & Diabetic patients.
- Previous one or more Caesarean sections.
- Multigravidae.

Results

Total Births.	3502
Spontaneous Vaginal Births.	1698
Caesarean sections.	1804

Table-1: Demographic Characteristics of Patients. Total Implanon Insertions 152.

Age		No of Insertion	Percentage
	<20 Years	15	9.86%
	20-30 Years	103	67.76%
	>40 Years	35	23.03%
Parity	1 - 2	09	5.92%
	2 -4	112	73.68%
	>4	32	21.05%

Table-I Shows maximum insertion occurs between 20-30yrs and in P2-P4.

Table-2: Dindications of Insertion (Total Insertion 152)

Indications	Number	Percentage
Cardiac Patients	13	8.55%
Previous 1 more ceaserean section	81	53.28%
Hypertensive disorders	23	15.13%
Grand multigravidae	28	18.42%
Multiple gestation	07	4.60%

Table-II shows maximum insertions were seen in indication of previous one or more C-sections.

Table-3: Complications (Total Insertion 152).

Complication	No of Insertion	Percentage
Bleeding Problems	37	24034%
Expulsion	07	4.60%
Weight Gain	12	7.89%
Mood Changes	15	9.86%
Pregnancy	0	0%
Removal of implanon	05	23.68%

Table III shows no pregnancy occurred in one-year period and expulsion rate is minimum.

Table-4: Followup (Total Insertion 152).

Indications	Number	Percentage
Follow up after 1 week	81	53.28%
Follow up after 6 weeks	35	23.02%
Last follow up	36	23.68%

Table-IV Shows Maximum follow-up after one week.

Discussion

Among women 18-35yrs of age at entry into clinical trials, 6 pregnancies occurred during two years of use. Real life typical use trials were conducted in 20,486 Australian women,using implanon. An analysis of the findings from the study indicated:
- 19 were inserted at the wrong time, resulted in pregnancy.
- 84 were inserted with improper insertion training
- Three were expulsions
- 8 were drug-drug interactions [11]

Insertion errors led to a similar experience in France. Between May 2001 & September 2002, thirtynine pregnancies were reported in women using implanon, which had been inserted incorrectly.[12] The incidence of reported pregnancies was estimated at 0.359/10,000 implants. The majority of the unintended pregnancies were due to improper timing or failure to successfully implant the device:
- 30 implants were not actually inserted.
- Two were drug-drug interactions.
- Four were untimely insertions.
- Two others were lost to follow-up.

In other post marketing studies of implanon, no pregnancies occurred following insertion. Implanon users were followed for three years in a study of 417 women in Mexico City.[13]

The observation period was 27.5 months per women. No pregnancy accured in this study for pearl index of 0.0. The continuation rate was 61.4%.

A United Kingdom study followed 106 women using implanon for 3 years.[14] The contnuation rate was 69.8% at 1 year. 44.1% at 2 years and 30.2% at three years. No pregnancy occurred during this time.

There is no evidence that body weight affects the efficacy of implanon, although clinical trials of this method included few women who weighed more than

90kg. The health care provider should discuss this aspect of implanon efficacy when counselling over weight women.[15] A few cases of ectopic pregnancy among patients using implanon were recorded, although there is no evidence of any casuality. Concomitent use of any enzyne inducer rifampicin resulted in ovulation and this subsequent ectopic pregnancy occurred in one case report[16]

In our study of one year follow-up, no pregnancy occurred neither intrauterine nor rectopic pregnancy. Bleeding problems occred in 24.3%, expulsion occred in 4.60%, weight gain in 7.89% and mood changes in 9.86%. In unsatisfied patients 3.28% implanon was removed.

Conclusion

Implanon demostrated excellent contraceptive efficacy and was well tolerated during three years of use. The vaginal bleeding pattern was variable and was characterized by relatively few bleeding events, but proved acceptable to most subjects. Because of single rod design, implanon was quickly inserted and removed.

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Original Article

COMPARISON OF MEDICAL VS SURGICAL MANAGEMENT OF MISSED ABORTION

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Objective: To compare the outcome of medical vs. surgical management of missed abortion in terms of success rate and complications

Material and Methods: All the participants were admitted in hospital gynecology ward and were divided into two groups. 55 women were randomly selected to undergo surgical management i.e. D&C and 75 women to receive medical treatment with oral misoprostol 400µgm thrice daily for 2 days.If the patient did not expel products of conception during 48 hours, her medical management was considered to be failed and surgical evacuation was done. Data collection was done on a structured Performa which was then entered on excel Data sheet and analyzed on spss20 statistical package.

Results: Surgical management was successful in 100% cases. Complications were more with surgical management i.e. nausea, vomiting, postoperative fever, lower abdominal pain, excessive bleeding, need for blood transfusion and genital tract trauma. Medical management had a lower success rate, evacuation was sometimes incomplete and patient had to experience labor pains but it had lower complication rate. D&C was easier in medical management group. Patient acceptability was more for medical group.

Conclusion: Surgical management has a high success rate but its complications are more as compared to medical management. Surgical evacuation as first line treatment option is only suitable for a woman who does not wish to undergo labor discomfort .Medical termination is easier to manage, more natural, associated with least complications and more acceptable by the patients but its success rate is slightly less as compared to surgical intervention. Hence each patient should be given the chance of medical termination for at least two days and if she does not expel products of conception spontaneously during this time, then only surgical evacuation should be done.

Key words: Misoprostol, D&C, bleeding, fever, vomiting, labor.

Introduction

1rst trimester missed abortion is loss of viability of the fetus before 13 weeks of gestation. Proximately one in four women experiences an early pregnancy failure during her life time.[1,2] Previously treatment of missed abortion before 13 weeks was either expectant or surgical with dilatation and curettage. Surgical treatment requires proper sterilization and operation theater facilities and is reported to be associated with many complications including cervical trauma, cervical incompetence, perforation of the uterus, endometritis and complications of anesthesia[1]. In addition, long term complications of dilatation and curettage include Asherman syndrome, subfertility, tubal damage and pelvic pain.[1] Expectant management can avoid complications of surgical management but it has low success rate in missed abortion. The interval from pregnancy failure to spontaneous expulsion is unpredictable and may turn out to be longer than 4 weeks, the uncertainty and anxiety associated with long duration often makes expectant management unacceptable to the patient with the introduction of misoprostol for induction of labor in missed abortion, medical management has become another effective treatment option.[3]

Misoprostol is oral synthetic prostaglandin E1.It is derivative of prostanoic acid.[1] It is used as a potent agent for induction of labor and postpartum hemorrhage. It is easily available, cheap, easy to administer and therefore easily accepted by the patients. Complications, efficacy, safety and acceptability of misoprostol are in the process of trials.[3-5] There is a risk that this management may result in pain, bleeding, and the need for emergency surgical evacuation, an increase in induction abortion time, and also an increase in the analgesia. Different dosage regimens are being tried to find out its relative effective dose without side effects. This study demonstrates a comparison of efficacy and safety of medical vs. surgical management in a substantial number of pregnant women with missed abortion.

Material and Method

This study was conducted at lady Willingdon Hospital Gynae and Obs unit II for 2 years (from Dec 2012 to Nov 2014).Inclusion criteria were the women with missed abortion and gestational age less than 13 weeks with no biparietal diameter on USG and who were willing to take part in the study. The diagnosis of missed abortion and gestational age were confirmed by transabdominal departmental scan. The exclusion criteria were women with severe lower abdominal pain and contraindications to misoprostol use like hepatic or renal failure. One hundred and thirty women fulfilled the criteria of the study and gave consent to participate in the study. They were admitted in hospital and their counseling was done about the success rate and complications of both surgical and medical methods.

Their choice of treatment option was also inquired. The maternal age, parity, gestational age, history of previous C/S, miscarriages and bleeding was noted. Baseline investigations like blood group and hemoglobin percentage were performed and blood was arranged for all patients Fifty-five women (n = 55) were selected randomly to undergo surgical management with dilatation and curettage (D&C) and 75 women to receive medical termination. For the first group, the evacuation was done in operation theatre under general anesthesia with preoperative preparation and overnight fasting. Medical termination was done with tab misoprostol 400µgm through oral route thrice a day for 2 days. Surgical evacuation was done if products of conception were not expelled completely during 48 hours. Antibiotic cover was given in both medical as well as surgical treatment groups as there was risk of infection with both management options. Patients of surgical group were given preoperative antibiotic cover with inj ceftrioxone 1gm IV stat while post evacuation antibiotic cover was given to participants of both groups. Anti-D immunoglobulin was given for Rh-negative women.

Statistical analysis

The data were analyzed using SPSS 20 package. The continuous variables were presented either as mean ± SD or as percentages.

Independent t-test was applied to compare the age difference between the groups. P value was calculated to assign results as significant(S) or non-significant (NS). Percentage, $\chi 2$ or the Fisher's exact test was used for nominal data to find significance of results.

Results

A total of 130 patients with missed abortion were selected for study There was significant difference of age among participants of each group with wide range of 18 to 32 years. . Majority of patients were primigravida (PG) in both groups. The range of gestational age was between 5 to 12 weeks. Most of the patients in both groups were between 8-12 weeks gestational age. Chi-square test was applied on other characteristics of study population. There was no significant difference in number of patients with previous history of missed abortion. In both groups women with previous cesarean sections and mild vaginal bleeding were included. In both surgical and medical management groups, patients were hospitalized for 72 hours. There was a significant difference between the results. Surgical management was done as elective procedure and it was successful in 100% of cases with no need to repeat the procedure. Medical management also achieved success in more than half cases (69.33%) Surgical management was found associated with postoperative nausea and vomiting in about one half cases. Misoprostol, although is being theoretically associated with side effects of vomiting and nausea had not a single case of these problems. In surgical group, 18% of cases had postoperative pyrexia while none of the patients had fever in medical management group. There was only minimal bleeding in medical management group even in cases which expelled products of conception incompletely and had a surgical evacuation later on. The patients with surgical management had a significant bleeding in 4(7%) cases at the start of procedure with need for blood transfusion .Patients with previous C/S had more bleeding during D&C as compared to other participants of surgical group. One patient with previous 1C/S (2%) even had suspicion of ruptured uterus due to excessive bleeding during D&C and her hysterectomy was carried out due to failure to stop bleeding. All the patients who had failed medical treatment or incomplete evacuation were subjected to dilatation and curettage after 48 hrs of induction. Cervical dilatation was found to be much easier in medical management group as compared to surgical group. The response to induction was slow initially and only 2 (2.6%) patients expelled products of conception in the first 24hours (hrs) but expulsion rate increased as induction abortion interval increased and more doses of misoprostol were administered as is shown in **fig-1**. The participants were well informed before the treatment that purpose of induction was to start labor pains and deliver products of conception naturally.

Furthermore in case of incomplete evacuation, D&C had to be done.

Fig-1: Induction abortion interval.

The acceptability of patients was quite high for medical group. Labor pains were experienced by 63 (84%) participants of medical group. 52 (69%) women had complete evacuation. Only 2 (2.6%) patients of medical group demanded for analgesia and 11(14.6%) patients required general anesthesia for surgical evacuation. On the other hand all the patients of surgical group had their evacuation under general anesthesia.

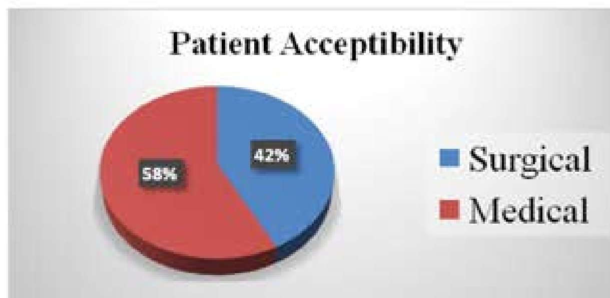

Fig-2: Patient acceptability.

Table-1: Study population (t Test).

Characteristics of Participants (n=130) Mean age (range 18-32 years)	Medical Management (n=75)	Surgical Management (n=56)	P-Value
Parity	PG n=45 (60%)	PG n=30 54.5 (4%)	1.9
	MG n=30 (40%)	MG n=25(45.456%)	p>0.5
Gestational age	5-8 weeks n=15	5-8 weeks 14	p>0.5
	8-12 weeks n=60	8-12 weeks 41	p>0.5
Mean gestational age	7.40±1.208	7.18±1.348	p>0.5

Table-2: Study population(Chi-square test)

Characteristics of Participants (n=130)	Medical Management (n=75)	Surgical Management (n=56)	Chi-Square Test
Previous history of missed abortion previous C/S	10	08	p>0.5
	Prev 1 C/S n=5	Prev 1 C/S n=4	
	Pre 2 C/S n=2	Pre 2 C/S n=4	p>0.5
Bleeding	13	15	p>0.5

Table-2: Outcome of medical and surgical management.

Outcome Measure	Medical Management No of Patients	Surgical Management No of Patients	Chi-square test
Success rate	52 (69.33%)	55 100%)	p<0.5
Incomplete evacaution	11 (14.67%)	None (0%)	p<0.5
Labor pains	63 (84%)	None (0%)	p<0.5
Analgesia and anesthesia	2 (2.67%)	56 (100%)	p<0.5
Vomiting	None (0%)	30 (54.54%)	p<0.5
Fever	None (0%)	10 (18.18%)	p<0.5

Post evacuation lower abdominal pain	2 (2.67%)	15 (27.27%)	p<0.5
Excessive Bleeding	None (0%)	20 (36.36%)	p<0.5
Need for blood transfusion	None (0%)	20 (36.36%)	p<0.5
Cervical trauma	None (0%)	2 (3.64%)	p<0.5
Uterine trauma	None (0%)	1 (1.82%)	p<0.5
Cervical dilatation	Easy	Difficult	
Patient acceptability	75 (58%)	55 (42%)	p<0.5

Discussion

The results of this study go with many international studies in favor of medical management.[6,7,8] The success rate of misoprostol was lower in this study as compared to international studies.[6,7] Possible reason for this low success rate was shorter induction time, lower dosage of the misoprostol and oral route of drug administration.

Risks of medical therapy included incomplete miscarriage and failure of medicine to work in some cases. Patients were informed about the possible risk of failure with medical management but still most of the patient's favored medical termination and to undertake the risk. Our study demonstrated that 75 patients favored medical termination vs. 55 for surgical evacuation. Several studies have found that most women will choose the medical option because it is non-invasive and safe.[9,10]

The infection rate associated was higher in surgical group. This was the case despite the fact that patients with surgical group were given preoperative antibiotics and a stronger broad spectrum antibiotic cover as compared to medical group .This finding agreed with the other study that showed medical termination may have a lower infection risk as compared to surgical evacuation.[11]

Misoprostol related side effects such as nausea, vomiting, and diarrhea were not observed in this study but they were present in other studies where higher and more frequent doses of misoprostol were used[11,12]. The excess postoperative nausea and vomiting in surgical group may be due to drugs of anesthesia and antibiotic cover. A lot of studies support medical management for first trimester missed abortion to avoid the risk of infection, trauma, and anesthesia.[12,13]

In the literature the evidence is growing for the safety of misoprostol[14,15,16]. Overall incidence of surgical complications was higher in this study including one case of emergency hysterectomy due to intractable bleeding. Many other international studies state that there are chances of cervical and uterine trauma due to D&C.[1,9,11]

Number of patients with hemorrhage and blood transfusion in surgical group was also higher in this study. This may be because patients with previous c/s were included in this study. In medical evacuation group no case had cervical laceration, perforation or required blood transfusion. This favorable finding documents the safety of the medical management.

Benefit of medical management was that work load of theater was reduced as more than ½ cases had complete medical evacuation, even patients of failed medical management and of incomplete miscarriage had a benefit that they were easier to dilate and bleeding was minimal. This point is esp. protective in patient with prev c/s where forcible dilatation against a tightly closed cervix can result in uterine rupture[17,18].

Conclusion

In cases of first trimester missed abortion, medical management with misoprostol is a much safer option as compared to surgical management. It avoids uterine instrumentation, pelvic infection and rupture of previous C/S scar which are observed complications of dilatation and curettage. It is also more suitable for medically unfit patients who cannot tolerate general anesthesia.

Medical management proved to be more successful in missed abortion with longer induction abortion interval. Side effects like nausea and vomiting which are being associated with misoprostol proved to be theoretical and have not been observed in this study. The risk of excessive bleeding was not there during the drug intake whether products of conception had been expelled completely or not. So patients with missed abortion can be safely treated even for one week which will increase success rate. However in a few patients, medical treatment failed. Women with complete expulsion do not require any further treatment and they should be sent home after counseling about cause of their missed abortion. Surgical management should be opted in cases of

incomplete evacuation on USG or failed medical treatment.

Surgical management has a high success rate but its complications are more as compared to medical management. Surgical evacuation as first hand treatment is only suitable for women who do not wish to undergo labor discomfort .Medical termination is easier to manage, more natural, associated with least complications and are more acceptable by the patient as first line management .

Hence each patient should be given the chance of medical termination for at least two days to one week and if she does not expel products of conception spontaneously during this time then only surgical management should be done.

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Original Article

FREQUENCY OF IMMEDIATE PNEUMOTHORAX AFTER SUBCLAVIAN VENOUS CANNULATION

Dur Muhammad Khan, Imran Mahfooz Khan, Ch. Adnan Ahmed Ather, Nadeem Akhtar and Bilal Mahmood

Objective: To determine the frequency of immediate pneumothorax after subclavian venous cannulation.

Material and Methods: This clinical trial was carried out in Mayo Hospital in all four medical ward (East, West, North, and South) and Nephrology ward of Mayo Hospital, Lahore during the period from15th March 2013 to 15th September 2013. It was descriptive case series study. A total of 450 cases fulfilling inclusion and exclusion criteria attending in patient department were selected. After antiseptic preparation of field, local anesthesia was administered. The subclavian vein was punctured at the junction between the middle and inner thirds of the clavicle. Negative pressure was maintained in the syringe to facilitate blood return when the subclavian vein was entered. A J guide-wire was advanced through the cannula to a length of 20 (15-16) cm. A small skin incision was placed at this site for ease of catheter passage. After dilatation, a catheter was inserted and advanced to predetermined point over the guide-wire. The lumen of catheter was sutured to avoid intra cardiac tip displacement and to prevent kinking and accidental withdrawal. Pneumothorax was checked by Chest X-ray taken within four hours of procedure.

Results: In our study, 41.56%(n=187)patients were between 30-50 years while 58.44%(n=263) were between 51-70 years, Mean+SD was calculated as 51.92 ±11.23 years, 57.56%(n=259) male and 42.44%(n=191) were females, frequency of immediate pneumothorax after subclavian venous cannulation was 6.44%(n=29) while 93.56%(n=421) had no findings of the such complications.

Conclusion: We concluded that the frequency of immediate pneumothorax among patients with subclavian venous cannulation is in agreement with other studies and not very high. But it is recommended that every patient who undergo with subclavian venous cannulation should be sorted out for pneumothorax. However, it is also required that every setup should have its surveillance in order to know the frequency of this complication.

Keywords: Subclavian venous cannulation, immediate pneumothorax, frequency.

Introduction

Central venous cannulation has become an integral component of modern medical care and has become an important skill for all hospital doctors and staff.[1] Central venous catheterization is implemented for volume resuscitation, hemodynamic monitoring, vasopressor administration, frequent blood sampling, parental nutritional support, hemodynamic monitoring and the administration of long term chemotherapy.[2] For hemodialysis, central venous catheters are used as a secure access to central circulation.[3] The subclavian vein access has been the standard recommended approach for central venous catheterization both for short term and long term use. The advantages are attributed to its large size, patient comfort and the lower rate of catheter related infections, also carry a lower risk of catheter related thrombus when compared to femoral or internal jugular vein cannulation.[4] The subclavian vein is 3-4cm long and lies posterior to the medial third of the clavicle and is thought to be held upon by surrounding tissues in circulatory collapse. It has always been fraught with complications because it is performed blindly, guided by certain surface landmarks.[5] One of the major complications associated with insertion of central venous catheless is pneumothorax due to inadvertent puncture of the lung at the time of inserting a needle into large vein.[6] The risk factors includes multiple attempts, inexperienced hands, body mass index (> 30 or < 20), large catheter size, previous failed attempts and previous operation or radiotherapy in the area of interest.[7]

If pneumothorax occurs, it is important to recognize its signs and presence of asymptomatic pneumothorax. In a normal clinical routine, a chest X-Ray should be obtained within 4 hours after the procedure of subclavian venous cannulation.[8] The overall frequency is typically quoted 4.9%.5.9 but this increases to about 10% if multiple attempts at

overall frequency is typically quoted 4.9%.5.9 but this increases to about 10% if multiple attempts at venepunture are made.[10] Subclavian venous cannulation is a common procedure in our setup and pneumothorax is its life-threatening complication. The purpose of my study is to determine the accurate frequency of this life threatening complication in our setup, as no specific local data regarding immediate pneumothorax is available here, with variable range of pneumothorax from (0.5% to 10%), so I wanted to estimate the actual frequency of immediate pneumothorax in our local setup with adequate sample size (450 cases), so that we can have preventive measure to avoid this life-threatening complication and take timely steps to manage it accordingly.

Material and Methods

Patients were selected from four Medical wards (East, West, North, South) and nephrology ward of Mayo Hospital, Lahore. The duration of the study was Six months after the approval of synopsis (15-03-2013 to 15-09-2013). A total of 450 cases fulfilling inclusion and exclusion criteria attending in patient department were selected. Informed written consent was taken before the procedure. After antiseptic preparation of field, local anesthesia was administered. The SV was punctured at the junction between the middle and inner thirds of the clavicle. Negative pressure was maintained in the syringe to facilitate blood return when the SV was entered. A J guide-wire was advanced through the cannula to a length of 20(15-16) cm. A small skin incision was placed at this site for ease of catheter passage. After dilatation, a catheter was inserted and advanced to predetermined point over the guide-wire. The lumen catheter was sutured to avoid intra cardiac tip displacement and to prevent kinking and accidental withdrawal. Pneumothorax was checked by Chest X-ray taken within four hours of procedure. All information was recorded on a specially designed Performa (attached).

According to Pneumothorax size, the management of Pneumothorax depends upon simple oxygen inhalation. (To resolve completely) to formal chest drain. Data was entered in computer program SPSS version 12. Descriptive statistics were used to analyze the data and frequency of Pneumothorax was calculated and presented in the form of frequency and percentages. Mean±S.D was calculated for graduation of data like age.

Results:

A total of 450 cases fulfilling the inclusion/exclusion criteria were enrolled to determine the frequency of immediate pneumothorax after subclavian venous cannulation.Age distribution of the patients was from which shows that 41.56%(n=187) were between 30-50 years while 58.44%(n=263) were between 51-70 years, Mean+SD was calculated as 51.92+11.23 years. **(Table-1&2)**. Gender distribution of the patients shows 57.56%(n=259) male and 42.44%(n=191) were females. Frequency of immediate pneumothorax after subclavian venous cannulation reveals 6.44%(n=29) while 93.56%(n=421) had no findings of such complications. **(Table-3).** Stratification for frequency of immediate pneumothorax after subclavian venous cannulation with regards to age was done which shows that out of 29 cases, 37.93%(n=11) were between 30-50 years and 62.07%(n=18) were between 51-70 years. **(Table- 4).**

Table-1-2: Age and Gender distribution (n=450).

Age in Years:		No of Patients	Percentage
	30-50	187	41.56
	51-70	263	58.44
	Total	450	100
Gender:	Male	259	57.56
	Female	191	42.44
	Total	450	100

Table-3: Frequency of immediate pneumothorax after subclavian venous cannulation (n=450).

Immediate Pneumotharax:	No of Patients	Percentage
Yes	29	6.44
No	421	93.56
Total	450	100

Table-4: Stratification for frequency of immediate pneumothorax after subclavian venous cannulation with regards to age (n=29).

Age in Years	No of Patients	Percentage
30-50	11	37.93
51-70	18	62.07
Total	29	100

Discussion

Catheterization of the subclavian vein viewed by physicians as a potentially dangerous procedure; in in-experienced hands, can lead to life-threatening complications. Pneumothorax is a well-known complication of central venous catheterization using

the jugular or subclavian approach.[12] It can occur within days after central venous catheterization, and dagnosis can sometimes be delayed.[13]

We planned this study with the view to determine the accurate frequency of this life threatening complication in our setup, as no specific local data regarding immediate pneumothorax is available here, with variable range of pneumothorax from (0.5% to 10%), so that we may have preventive measure to avoid this life-threatening complication and take timely steps to manage it accordingly. In our study, 41.56%(n=187) were between 30-50 years while 58.44%(n=263) were between 51-70 years, mean+SD was calculated as 51.92±11.23 years,57.56%(n=259) male and 42.44%(n=191) were females, frequency of immediate pneumothorax after subclavian venous cannulation reveals 6.44%(n=29) while 93.56%(n=421) had no findings of the morbidity.The findings of the current study are in agreement with other studies showing the overall frequency i.e. 4.9%.[5,9] and similarly with another study who recorded as 10% if multiple.[10]Plaus WJ recorded pneumothoraxes in 6.6% and were most frequent after the insertion of large catheters.[14] Another study by Taylor RW and co-workers[15] recorded that more than 15% of patients who undergo central catheterization experience complications such as pneumothorax, this frequency is higher than in our study, the reason is unknown. Though the current data is primary in our setup and more trials are required to authenticate the results of this study. However, by determining the frequency of this complication we may develop preventive measure to avoid this life-threatening complication and take timely steps to manage it accordingly.

Conclusion

We concluded that the frequency of immediate pneumothorax among patients with subclavian venous cannulation is in agreement with other studies and not very higher. But it is recommended that every patient who undergoing with subclavian venous cannulation should be sort out for pneumothorax. However, it is also required that every setup should have their surveillance in order to know the frequency of the problem.

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Original Article

PREVALENCE OF UNDETECTED REFRACTIVE ERRORS AMONG SCHOOL CHILDREN AGED 5-10 YEARS

Shamaila Hussain, Sumbal Inam,aleena Butt and Mariam Raza

Objective: To determine the undetected refractive errors and its association with different habits among school children aged 5yr-10yr in public and private schools.

Material and Methods: A cross-sectional study was conducted in a total of 200 students of class 1 to class 5, excluding those who were already wearing the glasses. Interviews using a structured questionnaire and visual acuity using standard Snellen's chart were done. Children with visual acuity less than 6/9 were marked as positive for refractive error.

Results: The results revealed that 72 out of 200 students (36%) had refractive errors, public school 37.5% and private schools 62.5%.The study students had a mean age of 7 ±1.7years with 47% being females and 53% males. 116 students included in the study belonged to age group 5-7 years (58%) and 84 belonged to age group 8-10 years (42%). Statistically significant association($p < 0.05$) was found among private schools between myopia and watching television closely, over indulgence in video and computer games, studying by keeping the book at arm's length and studying in dim light.

Conclusion: Myopia was the most common refractive error occurring among students examined. A strong correlation was found between myopia and watching TV closely, studying in dim light and over indulgence in playing video and computer games. It is recommended that eye care services should be integrated in the schools and annual eye examination of all students should be done to timely detect the presence of refractive errors.

Keywords: Prevalence, refractive error, children.

Introduction

A refractive error is a very common eye disorder. It occurs when the eye cannot clearly focus the images from the outside world. The result of refractive error is blurred vision, which is sometimes so severe that it causes visual impairment.[1]

According to WHO, 285 million people are estimated to be visually impaired worldwide. 39 million are blind and 246 million have low vision. About 90% of the world's visually impaired live in developing countries. Globally uncorrected refractive errors are the main cause of the visual impairment but cataract remains the leading cause of blindness in middle and low income countries. Globally uncorrected refractive errors (myopia, hypermetropia , astigmatism) account for 43% of visual impairment, Un-operated cataract 33% and glaucoma 2%.An estimated 19 million children below age 15 are visually impaired. Of these 12 million children who have refractive errors, a condition that could be easily diagnosed and corrected. 1.4 million are irreversibly blind for rest of their lives.[2] In Pakistan 11.4 % of blindness is due to uncorrected refractive errors and the third commonest cause of blindness in Pakistan after cataract (66%) and corneal opacity (12.6%).[3]

Refractive error is the second most common eye disorder in pediatric age group after vernal catarrh.[4] The study was conducted to find the prevalence of undetected refractive errors among school children and promote the acquisition of eye care services in schools and the periodic examination of the vision in the schools so as to timely detect the refractive errors in students and prevent their complications.

The objective for which this study was conducted was to determine the prevalence of undetected refractive errors among school children aged 5yr-10yr.

The study hypothesis was to find out the association of refractive errors with factors such as family history of wearing glasses, overindulgence in playing video and computer games, prolonged television and computer watching etc.

Normally, the rays of light entering the eye are focused on fovea centralis of retina after passing through cornea, aqeous humour, lens and vitreous humour when the refractive power and axial length of eye correlates with each other. When these two factors do not correlate with each other the rays of light entering the eye ball will not be focused on fovea centralis and the image will not be correctly formed. This condition is known as refractive error.

Materials And Methods

Settings: 2 public and 2 private schools of Lahore.
Time: 1 month from April 2014 to May 2014.
Study design: Cross sectional study.
Sampling design: Simple Radom Probability technique.
Sample size: 200
Formula used for calculating sample size:
Sample size determination in Health Studies.
Version 2. 0 .21
World Health Organization.
Sampling Frame: A complete list of all public and private sector schools from Board of Secondary Education, Lahore was obtained and then two schools from each sector were selected by simple random sampling (lottery method). 50 students were selected from each school of class 1 to class 5 and questionnaires were filled by self-interviewing method.
Inclusion criteria: All the students of 5yr-10yrs of age both males and females of class 1 to 5 were included in the study in the selected schools.
Exclusion criteria: Students below 5yrs and above 10yrs of age were excluded and those already wearing glasses were also excluded from the study.
Data collection tools: 1) A written questionnaire (attached) .
2) Standard Snellen's chart and Jagger's chart.
3) WHO criteria for recording vision: (17)
Analysis:
Data analysis plan: SPSS version 17.
Test of significance applied: As the study includes qualitative variables, frequency tables were drawn and frequency percentages were calculated. Data is graphically represented by pie and bar charts. Chi-square and t-test were applied as test of statistical significance.
Hypothesis formation:
Null hypothesis: There is no association of refractive errors with factors such as positive family history of wearing glasses, overindulgence in video and mobile games, prolonged television and computer watching etc.
Alternate hypothesis: There is an association of refractive errors with factors such as positive family history of wearing glasses, overindulgence in video and mobile games, prolonged television and computer watching etc.

Results

A total of 200 children between 5-10 years of age were examined in 4 schools, 2 public and 2 private. The mean age of study population was 7±1.7yrs. Among them 53% were males and 47% were females.36% children were found to be positive for refractive error.

Table-1: Shows distance visual acuity.

Category	Presenting distance visual acuity	
	Worse than:	Equal to or better than:
Mild or no vision impairment		6/18
Moderate vision impairment	6/18	6/60
Severe vision impairment	6/60	3/60
Blindness	3/60	1/60*
Blindness	1/60*	Light percetion
Blindness	No light perception	

* Or count fingers (CF)at 1 meter.

Fig 1.: prevalence of refractive errors (n=200)

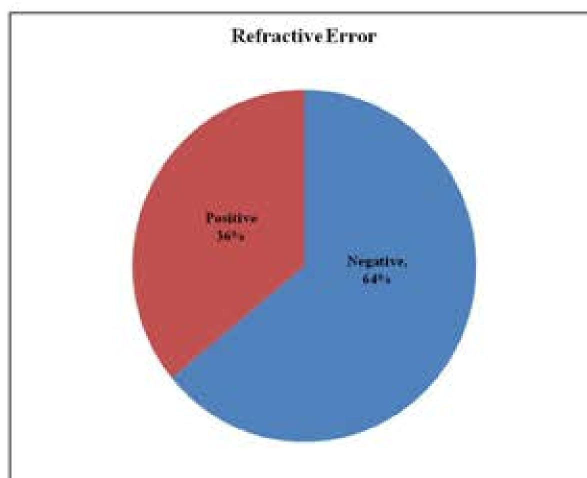

Fig-1: Prevalence of refractive errors (n=200).

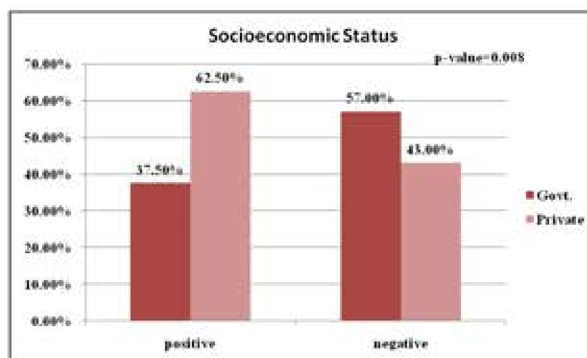

Fig-2: Comparative prevalence of refractive errors (according to schools).

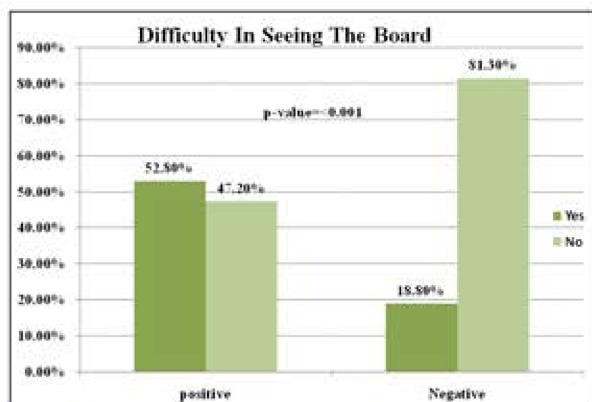

Fig-3: Association of refractive error with difficulty in seeing the school board.

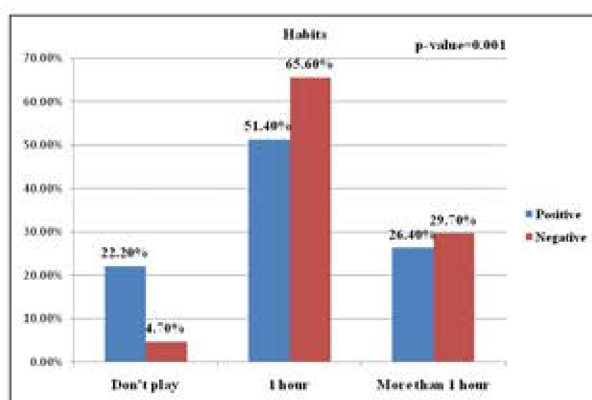

Fig-4: Association of refractive error with duration of playing video games.

Discussion

The vision 2020 Global initiative of WHO aims at early recognition of avoidable causes of blindness and visual disability and prompt treatment. It has identified uncorrected refractive errors among school children as a major area where immediate action is needed.

In our study 72 out of 200 school children had refractive errors. Of these 27 out of 100 belong to Government Schools and 45 out of 100 belong to private schools depicting a total prevalence of 36 %. Our study shows a significantly higher prevalence of refractive errors among private schools children.

Our result are in accordance with the studies conducted by Institute of Public Health and Punjab Institute of Preventive Ophthalmology, Mayo Hospital, Lahore[8], in Jhapa Nepal[9] and in Pune India[10] which also show a significantly higher prevalence of refractive errors in private school children as compared with government school children.

Our study shows no statistically significant age and gender association of Myopia. Our results are supported by the study conducted in Karachi[12] which also show no age and gender association of Myopia. It is noteworthy that there is statistically significant association found between presence of refractive error and risk factors such as difficulty in seeing the board, difficulty in reading the text books, pain in eyes, discharge from the eyes and blurring of vision. Likewise our results are supported by study conducted by Pakistan Institute of Community Ophthalmology, Peshawar[18] which also shows significant association between refractive errors and above mentioned risk factors.

Our study shows significant association between occurrence of refractive errors and prolonged playing of video and mobile games and television watching, these results are supported with the studies conducted at College of Ophthalmology and Allied Vision Sciences Lahore,[19] in Pune India,[20] Pokhara city of Nepal.[21]

Our results show a significant association between refractive errors and studying in dim/candle light which is also in accordance with the study conducted in University of Pennsylvania.[22]

Moreover, there was no association found between prevalence of refractive errors and positive family history of wearing glasses. Our results about this association are not in accordance with the studies conducted in Pennsylvania and by Institute of Public Health and Punjab Institute of Preventive Ophthalmology Lahore.[12]

Conclusion

It was concluded that the refractive error is one of the most important cause of visual impairment. Of the refractive errors affecting visual acuity, myopia is the most common.

The prevalence of refractive errors is higher in private run schools as compared with government run schools and is also influenced by factors like increase indulgence in video games, computer games, television watching and din/candle light studying habits etc.

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Original Article

WIFE BATTERING TRENDS IN PAKISTANI POPULATION

Alvina Raja, Yasmin Aamir, Sundas, Syed Zia ud din and A. Hamid

Objective: To study the present trends about wife battering in Pakistani population.

Material and Methods: Two hundred cases of battered wife were selected from Emergency & OPD of Islam Hospital Sialkot, OPD & Emergency of Fouji Foundation Hospital Rawalpindi, PD & Emergency Department of Railway Hospital Rawalpindi, OPD & Emergency Department of Services Hospital, Lahore, and OPD & Emergency Department of Shahina Jamil Hospital Abbottabad. The data was collected on proforma with relation to age, socio economic status, literacy rate, occupation, addiction, joint family system & residential area with the permission of authorities of the hospitals. The data was analyzed for results statistically.

Results: In this study the victims of battered wife were maximum at the age range 21 30 years 33 % (66 cases) as compared to age range 71 80 years 02 % (04 cases). The house wives were the maximum victims of battered wife 25 % (50 cases) as compared to belonging to business community wives 05 % (10 cases). In the lower class the victims of battered wife were 56 % (112 cases), in middle class 24 % (48 cases) and in high gentry 20 % (40 cases) victims of battered wife were recorded. Among the addicted couples the battering of wife was higher 83 % (166 cases) as compared to non addicted couples 17 % (34 cases). The battered wives were 73 % (146 cases) in case of more than one wife as compared to single wife 27 % (54 cases). Where there was sickness of the wife or husband the victims were 83 % (166 cases) as compared to healthy couple which were 17 % (34 cases). In illiterate families the victims of battered wife were 63 % (126 cases) as compared to literate families 37 % (74 cases). In joint family system the victims of battered wife were 67 % (134 cases) as compared to nuclear family system 33 % (66 cases) were seen. The victims of battered wife were maximum from rural area 67 % (134 cases) as compared to urban area 33 % (66 cases).

Conclusion: The tendency of battered wife is a global problem.It is increasing day by day in developed / under developed countries and nations. This trend is even going to be increased in Muslims countries where battering to the wife is prohibited (Haraam).

Keywords: Battered wife, wife battering, Psychological, economical, mental / physical sickness and joint family system.

Introduction

Recently many social scientists have paid their attention towars the issue of violence against women, not only in the developed but also in the deveoping world.[1] Feminist movements for the last three centuries have been focusing on the repressive conditions being faced by women across the world but the condition of the women is still far from satisfactory and cries out for amelioration.[2] Recently feminst scholars have comented on strategies to safegurad women from domestic violence. Although, technological advancement, globalization, industrialization, internationalization of media and efforts made by iternational instutions, including international non-govermental orgainzations have created some space for women to compete on equal footing but the situation is unfortunately still much unsatisfactory for those women who are living in under developed nation.[3] On the other hand there are few international humanitarian organizations, which are working to eliminate this violence against them.[4] The cumulative and even concerted efforts by struggling parties have brought little furit and the situation still remains unpalatable and appressive.[5] This brutal violence has different forms and multi-lateral dimensions.[6] It varies from society to society in its maginitude and intensity. Wife battering is one of the major issues and practices in violence against women.[7] According to Heise violence against women is a worldwide phenomenon, transcending cultural, geographic, religious, social and economic boundaries. It has come to be recognized internationally as an important issue and has become the subject of a substantial amount of research in recent decades[8]. The most common type of violence against wife is domestic;

violence perpetrated by intimate partner.[9] In the context of Pakistan social setup violence against wife has a very abnormal proprtion since the societal norms encourage and perpetuate the superiority of men-folk.[10] Among other reasons for the dominance of the men over women, is the joint family system.[11] This stretched family yields excessive influence of the in-laws over the wife husband relations and is a substantial cause of wife degradation, wife humiliation and wife battering. It is usually the mother-in-law who is the major factor in this sanguine drama but she is all the same reinforced feudal make-up of family structure. It is very rare that mother-in-law comes to fend the disputes but most of time she igintes and sparkles vicious conflagration among spouses. The pandora-box of complaints against her daughter-in-law is never exhausted.[12]

The factors interacting through which female are targeted in rural Punjab have specific formations. The societal norms to a large extent insist the husbands for wife battering. To some extent religion is also misused in perpetuating such acts.[13] The frequency of sever wife battering has resulted into a chain reaction of social malformation. The present research has unfolded a disastrous situation, the victims have an urge to live in a nuclear family rather than to live in a joint family and facing such inexorable violence. In their perception and to some extent true, it minimizes the intrusions of the in-laws thus rending part the social fabric of society. While on the other hand some of these victims are struggling to opt out of marriage contract but are faced with the dilemma of between the devil and the deep blue sea since the dissolution of such a contract is likely to result into further misfortune and complications and top of all the infliction of social stigma, that is attached to a forsaken divorce.[14]

Material & Methods

Two hundred cases of battered wife were selected from Emergency & OPD of Islam Hospital Sialkot, OPD & Emergency of Fouji Foundation Hospital Rawalpindi, Emergency &OPD of Railway Hospital Rawalpindi, OPD & Emergency Department of Services Hospital, Lahore, and OPD & Emergency Department of Shahina Jamil Hospital Abbottabad. The data was collected on proforma with relation to age, socio economic status, literacy rate, occupation, addiction, joint family system, residential area with the permission of authorities of the hospitals. The data was analyzed for results statistically.

Results

In this study the victims of battered wife were maximum at the age range 21 30 years 33 % (66 cases) as compared to age range 71 80 years 02 % (04 cases) as shown in **Table No 1.** The house wives were the maximum victims of battered wife 25 % (50 cases) as compared to business man wife 05 % (10 cases) as shown in **Table No 2**. In the lower class the victims of battered wife were 56 % (112 cases), in middle class 24 % (48 cases) and in high gentry 20 % (40 cases) victims of battered wife were recorded as shown in Table No 3. Were the members of addicted couple the battering of wife was higher 83 % (166 cases) as compared to non addicted couple 17 % (34 cases) as shown in **Table No 4.** The victims of battered wife were 73 % (146 cases) where there was more than one wife as compared to single wife 27 % (54 cases) as shown in **Table No 5**. Where there was sickness of the wife or husband found the victims of battered wife were 83 % (166 cases) as compared to healthy couple 17 % (34 cases) were seen as shown in **Table No 6**. In illiterate families the victims of battered wife were 63 % (126 cases) as compared to literate families 37 % (74 cases) were seen as shown in **Table No 7**. In joint family system the victims of battered wife were 67 % (134 cases) as compared to nuclear family system 33 % (66 cases) were seen as shown in **Table No 8**. The victims of battered wife were maximum from rural area 67 % (134 cases) as compared to urban area 33 % (66 cases) were recorded as shown in **Table No 9.**

Table-1: Battered Wife with relation to age.

Age in Years	Number	Percentage
10 - 20	20	10%
21 - 30	66	33%
31 - 40	50	25%
41 - 50	30	15%
51 - 60	22	11%
61 - 70	08	04%
71 - 80	04	02%
Total	200	100%

Table-2: Battered wife with relation to occupation.

Age in Years	Number	Percentage
Student	14	07%
House Wife	50	25%
Factory Worker	30	15%

Office Worker	20	10%
Business Man	10	05%
Farmer	14	07%
Labourer	30	15%
Miscellaneous	32	16%
Total	200	100%

Table-3: Battered wife with relation to socio economic status.

Socio economic status	Number	Percentage
Lower Class	112	56%
Middle Class	48	24%
High Gentry	40	20%
Total	200	100%

Table-4: Battered wife with relation to addiction of wife / husband.

Addiction	Number	Percentage
Member of addict couple	166	83%
Non addict couple	34	17%
Total	200	100%

Table-5: Battered wife with relation to marital status.

Marital Status	Number	Percentage
More than one wife	146	73%
Single wife	34	27%
Total	200	100%

Table-6: Battered wife with relation to mental / Physical Sickness of wife / husband.

Sickness	Number	Percentage
Sick wife / husband	166	83%
Healthy wife	34	17%
Total	200	100%

Table-7: Battered wife with relation to literacy status.

Literacy Status	Number	Percentage
Literate	74	37%
Illiterate	126	63%
Total	200	100%

Table-8: Battered wife with relation to joint family system.

Family System	Number	Percentage
Nuclear family system	66	33%
Joint family system	134	67%
Total	200	100%

Table-9: Battered wife with relation to residential area.

Residential area	Number	Percentage
Rural area	134	67%
Urban area	66	33%
Total	200	100%

Discussion

Battered wife is a global problem and exists in both developed / under developed nations. The battering of wives is going to be increased even in muslims countries like Pakistan, Bangladesh and Saudi-Arabia etc. The battering can be decreased by observing preventive measures like.[15]

- Nuclear family system
- Creating awareness about human rights by seminars, religious teachings / education
- By providing psychological services
- By providing social services
- By providing economical services
- By providing treatment for mental / physical sicknesses.
- By increasing literacy rate
- By increasing religious teachings

In this study the victims of battered wife were maximum at the age range 21 30 years 33 % (66 cases) as compared to age range 71 80 years 02 % (04 cases), as this age the reaction to even minor problems is much more as compared old age. The house wives were the maximum victims of battered wife 25 % (50 cases) as compared to business man wife 05 % (10 cases), as the house wife face more problems as compared to business man wife. In the lower class the victims of battered wife were 56 % (112 cases), in middle class 24 % (48 cases) and in high gentry 20 % (40 cases) victims of battered wife were recorded, as there are more economical problems as compared to high gentry. Where the members of addict couple the battering of wife was higher 83 % (166 cases) as compared to non addict couple 17 % (34 cases), as the addiction decreases the mental tolerance which becomes the cause of battering. The victims of battered wife were 73 % (146 cases) where there was

more than one wife as compared to single wife 27 % (54 cases), as the number of problems increases with increase of number of wife. Where there was sickness of the wife or husband found the victims of battered wife were 83 % (166 cases) as compared to healthy couple 17 % (34 cases) were seen as the mental / physical sickness decreases the tolerance which is cause of battering. In illiterate families the victims of battered wife were 63 % (126 cases) as compared to literate families 37 % (74 cases) were seen, as the literacy increases the power of problems solving capacity which decreases battering rate in married couples. In joint family system the victims of battered wife were 67 % (134 cases), as compared to non joint family system 33 % (66 cases) were seen, as the joint family system creates the number of problems especially the mother in law as compared to non joint family system. The victims of battered wife were maximum from rural area 67 % (134 cases) as compared to urban area 33 % (66 cases) were recorded, as there are number of problems like illiteracy, poverty, load shading etc. are much more as compared to urban area.

Most of the battered women thought that it was due to the family tradition and husbands are incited or coaxed by other family members to commit such acts.

Domestic violence with wife or any other type of violence is always due to some clashes in the relationship of two or more than two individuals. Family is a basic institution of the society where all the members act as component of the system and for the smooth environment it is important that every one play his/her role positively.[16]

The most important factor in the battered wife in previous studies is the crucial role of mothers-in-law in Pakistan society. It is considered as extrinsic factor which abets and encourages the husband to become batterers in their houses.

The perception of divorcing has been fundamentally associated with severity of battering. Although it is thought to be course for a female to initiate for divorce, in rural Punjab.[17]

Conclusions

The tendency of battered wife is a global problem. It is increasing day by day in developed / under developed countries and nations. This trend is even going to be increased in Muslims countries where battering to the wife is prohibited (Haraam)

Suggestions

The tendency of battered wife can be decreased by observing following measures

a) Nuclear family system
b) By creating awareness about human rights by seminars, religious teachings / education
c) By providing psychological services
d) By providing social services
e) By providing economical services
f) By providing treatment for mental / physical sickness

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Original Article

COLONOSCOPIC EVALUATION OF BLEEDING PER RECTUM IN CHILDREN

Muhammad Yasin Alvi, M.Abdul Moeed Alvi, Muhammad Abbas, and Moeed Ahmad Khan

Objective: To evaluate the role of colonoscopy in the diagnosis and management of bleeding perrectum in children.

Material and Methods: It was descriptive type of studyconducted at Department of Pediatrics, Services Hospital, Lahore including 50 patients of either sex with age range of 5-15 years in whom colonoscopy was performedfor bleeding PR. The patients with acute dysentery, melena and rectal prolapse were excluded from study.

Gut preparation was started forty-eight hours before procedure. The children were given clear liquids without any milk and fiber containing diet. Liquid paraffin was given orally as laxative and two doses of kleen enema were given, 12 hours and 1 hour before procedure. Colonoscopy was performed under deep sedation (Midazolam 0.25-0.5mg/kg) using fiberoptic pediatric colonoscope in Medical Unit-1 of Services Hospital, Lahore. Polypectomy was done in patient with pedunculated polyps and colonic biopsy was taken where indicated. The samples were sent for histopathology in the Department of Pathology of the same hospital. After procedure all patients were kept under observation for 4-6 hours in pediatric ward.

Results: Colorectal polyps were the most common cause of bleeding per rectum (56%) followed by ulcerative colitis (12%), solitary rectal ulcer (8%), non-specific colitis (8%) and hemorrhoids in 2%. There was suspicion of malignancy in 2 children on colonoscopy. Biopsy was taken and it was confirmed as adenocarcinoma on histopathology in one child. Among patients with polyps (n=28), 22 (78.6%) have single polyp and 6 (21.4%) have more than one. Main site of polyps was rectum (20 patients) while it was sigmoid/rectosigmoid junction in 5 and descending colon in 2 children. Polypectomy was performed in 21 children while it was not possible in 7 due to sessile polyps in 6 and polyp size larger than snare in 1 child.

Conclusion: Colonoscopy is safe and very useful tool in the diagnosis and management of bleeding per rectum in pediatric patients and juvenile polyps are the commonest cause of bleeding per rectum in this age group.

Keywords: colonoscopy, bleeding per rectum, pediatrics.

Introduction

Lower gastrointestinal bleeding (LGIB) is defined as bleeding with an origin distal to ligament of treitz. But the source of bleeding per rectum (PR) in most of the children is in the colon. About 0.3% children visiting pediatric emergency and 1% of pre-school and school children present with bleeding PR.[1,2]

The spectrum of disease is very different from that of adults. The causes of LGIB are numerous and depend on the age of the child. Colonic polyps followed by infectious colitis, anal fissure, solitary rectal ulcer, Inflammatory Bowel Disease (IBD) and Meckel diverticulum are common causes of bleeding per rectum in pediatric age group.

LGIB can present in four ways[1] Hematochezia i.e. passage of bright red blood per rectum, indicating an origin, most commonly in the colon.[2] Melena passage of black, tarry, foul smelling stools indicating the source of bleeding in upper gastrointestinal tract.[3] Occult GI bleeding with symptoms related to pallor or iron deficiency anemia.[4] Altered brick colored blood, from distal small bowel.

Evaluation of patient with LGIB include history, physical examination, laboratory investigations and endoscopy. Laboratory investigations include HB%, TLC with differential, PT, APTT and acute phase reactants including ESR & CRP. LFTs are indicated if there is suspicion of chronic liver disease (CLD). Stool examination for blood, ova and parasites and culture is indicated in all patients with LGIB. Barium enema and USG is of little use to diagnose cause of bleeding. Colonoscopy/proctosigmoidoscopy should be performed in all patients with LGIB. Sigmoidoscopy is helpful if the cause is in the distal colon, while colonoscopy is indicated when proctosigmoidoscopy fails to find the cause of LGIB and when examination of terminal ilium is necessary or if polypectomy has to be performed. Colonoscopy offers the opportunity to provide direct access to biopsies, polypectomy and caoagulation of

bleeding lesions.

Radionuclide scanning with technetium(TC)99m pertechnetate (Meckle scan) and TC 99m pertechnetate red blood cell scan (bleeding scan) is indicated if colonoscopy is unremarcable.

Materials & Methods

It was descriptive type of studyconducted at Department of Pediatrics, Services Hospital, Lahore including 50 patients of either sex with age range of 5-15 years in whom colonoscopy was performedfor bleeding PR. The patients with acute dysentery, melena and rectal prolapse were excluded from study.

Gut preparation was started forty-eight hours before procedure. The children were given clear liquids without any milk and fiber containing diet. Liquid paraffin was given orally as laxative and two doses of kleen enema were given, 12 hours and 1 hour before procedure. Colonoscopy was performed under deep sedation (Medazolam 0.25-0.5 mg/kg) using fiberoptic pediatric colonoscope in Medical Unit-1 of Services Hospital, Lahore. Polypectomy was done in patient with pedunculated polyps and colonic biopsy was taken where indicated. The samples were sent for histopathology in the Department of Pathology of the same hospital. After procedure all patients were kept under observation for 4-6 hours in pediatric ward.

Results

Out of 50 patients 28 (56%) were male and 22 (44%) female with male to female ration of 1.3:1. Age range of children at the time of diagnosis was 4-15 years with mean age of 8.5 years. 11 (22%) patients were under 5 years, 27 (54%) between 5-10 years and 12 (24%) from 11-15 years. Children less than 4 years were not included due to non-availability of small size colonoscope. Colorectal polyps were the most common cause of bleeding per rectum (56%) followed by ulcerative colitis (12%), solitary rectal ulcer (8%), non-specific colitis (8%) and hemorrhoids in 2%. There was suspicion of malignancy in 2 children on colonoscopy. Biopsy was taken and in one child it was confirmed as adenocarcinoma on histopathology while the second patient did not return for follow-up. Colonoscopy was normal in 10% of the children **(Table 1).**

Among patients with polyps (n=28), 22 (78.6%) have single polyp and 6 (21.4%) have more than one. Main site of polyps was rectum (20 patients) while it was sigmoid/rectosigmoid junction in 5 and descending colon in 2 children. Polypectomy was performed in 21 children while it was not possible in 7 due to sessile polyps in 6 and polyp size larger than snare in 1 child **(Table 2).**

Table-1: Etiology of Bleeding per rectum.

Cause	Number	Percentage
Colorectal Polyps	28	56%
Ulcerative colitis	06	1%
Solitary rectal ulcer	04	8%
Non-sepcific colitis	04	8%
Hemorrhoids	01	2%
Malignancy	02	4%
Normal colonoscopy	05	10%

Table-2: Characteristics of Polyps (n=28).

Number	Single	02	78.57%
	>One	06	21.42%
Site	Rectum	20	71.4%
	Sigmoid colon	02	17.85%
	Descending colon	01	7.14%
	Transverse colon	22	3.57%
Type	Predunculated	06	78.6%
	Sessile	05	21.4%
Polypectomy		22	

Discussion

The study included 50 patients with male to female ratio of 1.3:1. Mean age at diagnosis was 8.5 years with age range of 4-15 years. Children less than 4 years were not included due to non-availability of small size colonoscope. Colorectal polyps were the most common cause of bleeding per rectum (56%) followed by ulcerative colitis (12%), solitary rectal ulcer (8%), non-specific colitis (8%) and hemorrhoids in 2%. There was suspicion of malignancy in 2 children on colonoscopy. Biopsy was taken and in one child it was confirmed as adenocarcinoma on histopathology while the second patient did not return for follow-up. Colonoscopy was normal in 10% of the children. In a study from India the causes of lower gastrointestinal bleeding include juvenile polyps 47%, amoebic colitis 23.5%, solitary rectal ulcer 4.7% and polyposis syndrome 5.9%.[3] In another study from India juvenile polyps were diagnosed in 61% of children with bleeding PR.[4] In a similar study from Iran the common causes of lower

gastrointestinal bleeding in children were, polyps in 25.1% followed by non-specific colitis 26.4%, lymphoid nodular hyperplasia 15.2% and solitary rectal ulcer in 6.9% patients.[5]

We did not diagnose any child as infectious colitis because all of the patients with suspicion of infection on history & stool examination were adequately treated with antibiotics and Metronidazole before colonoscopy. The patients who responded to antibiotic treatment were not included in the study as colonoscopy was not performed in these children. In other studies infectious colitis was diagnosed as a cause of rectal bleeding in 26.2%[6] and infectious colitis followed by colorectal polypps were major causes of bleeding per rectum in Egyptian children.[7]

Regarding polyps, (n=28), 22 (78.6%) patients has single polyp and 6 (21.4%) children has 2 or >2 polyps and 27 (94.4%) polyps were on left side of colon. Out of these 20 in the rectum, 5 in the sigmoid or rectosigmoid junction and 2 in the descending colon. In one patient polyp was at hepatic flexure. Again the results are similar to other studies where solitary polyps were present in 76% children with bleeding PR and left colon was the main site for colorectal polyps.[4]

In 22 patients polyps were pedunculated and polypectomy was performed in 21 patients. On histopathology all were juvenile polyps. In one patient polyp was larger than the size of snare, so this patient was referred for surgical resection. 6 patients have sessile polyps and polypectomy could not be performed. These children were advised follow-up colonoscopy. On endoscopy there was suspicion of IBD in 10 patients. On histopathology 6 (12%) patients were diagnosed as U.C. while in 4 (8%) children histopathology showed non-specific colitis. Bleeding per rectum is not usual presentation of inflammatory bowel disease (IBD) but it is part of clinical spectrum of IBD. Bleeding per rectum is more common in ulcerative colitis as compared to Crohn's disease because ulcerative colitis always involve the colon while Crohn's disease may involve any part of the intestine. Our study included children with bleeding per rectum, so all of our children with suspicion of IBD were diagnosed as ulcerative colitis. Furthermore ulcerative colitis is much more common as compared to Crohn's disease in our country. Our findings are consistent with another study from Pakistan where ulcerative colitis was diagnosed in 2.5% of the children with bleeding per rectum[(6)].

Solitary rectal ulcer of benign nature on histopathology was diagnosed in 4(8%) children. In the study from Iran 6.9% children with bleeding per rectum were diagnosed as solitary rectal ulcer[(5)] which is comparable with our study. Hemorrhoids are rare cause of per rectal bleeding in children, often related to diet deficient in fiber and secondary to portal hypertension. We have only one adolescent with hemorrhoids but he has no evidence of portal hypertension. No pathology was diagnosed on colonoscopy, in 5 children and further investigations like Tc.99 Mackle scan and bleeding scan were advised in these patients to find out the cause proximal to colon.

Conclusion

Colonoscopy is safe and very useful tool for evaluation of children with per rectal bleeding. Juvenile polyps are the commonest cause of rectal bleeding in pediatric population and most of these can be removed by polypectomy at the time of colonoscopy.

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Original Article

Acute Appendicitis: Diagnostic Algorithm Using Routine Ultrasonography and Optional Computed Tomography

Habib Ahmed, Muhammad Waheed and Muhammad Tariq Nazir

Objective: To access the algorithm in diagnosis of acute appendicitis, using routine ultrasonography and optional computed tomography (CT).

Material and Methods: It was prospective study of 128 patients presenting in emergency department with complaint of pain right lower quadrant of abdomen. After clinical evaluation and lab investigations, ultrasonography abdomen was done for all patients. If provisional diagnosis was made on these bases, treatment was started. If ultrasonography findings were negative or inconclusive, CT was done with intravenous contrast. The final diagnosis was made by ultrasonography/CT report, operative findings, histopathology report of the removed specimen and outcome of the treatment.

Results: After completion of initial clinical workup and ultrasonography, we were able to make provisional diagnosis in 90 patients. Ultrasonography showed inflamed appendix in 76 patients, alternate diagnosis in 14 patients and in 38 patients report was normal or inconclusive. CT was done in these 38 patients. CT scan showed inflamed appendix in 15 patients and alternative diagnosis in 4 patients. In 19 patients CT report was normal. 91 patients were operated for open appendectomy. In 85 patients, inflamed appendix was proved on histopathology and in 6 patients, appendix was normal. Accuracy of clinical diagnosis alone was 81%, with Ultrasonography was 85%, with CT was 97% and accuracy of whole diagnostic pathway was 95%.

Conclusion: In suspected case of acute appendicitis, diagnosis algorithm using routine ultrasonography and optional CT yields high diagnostic accuracy. Patients with normal ultrasonography and CT findings can be safely observed.

Key words: Acute appendicitis, ultrasonography, computed tomography

Introduction

Acute pain right lower quadrant of abdomen is a common chief complain in clinical practice. The differential diagnosis of right lower quadrant pain includes broad spectrum of clinical entities that range from self-resolving nonspecific pain to diseases with high morbidity. In about 30% of patients no diagnosis is made and symptoms resolve spontaneously.[1] It is important to separate these cases from those who need emergency surgery. Acute appendicitis is the most common cause of acute pain right lower quadrant, and appendectomy is the most common surgical procedure performed for pain abdomen.[2] The overall diagnostic accuracy achieved by traditional history, physical examination, and laboratory tests has been approximately 80 percent.[3] The ease and accuracy of diagnosis varies by the patient's age and sex, and is more difficult in women of childbearing age, children, and elderly persons. About 20-33 percent of patients of acute appendicitis present atypically[1] and delay in diagnosis of these patients may lead to perforation of appendix with increased morbidity and mortality. The mortality rate of appendicitis jumps from less than 1 percent in non-perforated cases to 5 percent or higher when perforation occurs.[4] To prevent high morbidity and mortality, surgeons have traditionally accepted higher rate of negative appendectomies.[4] Historically, negative appendectomy rates of 1020 percent have been accepted. Negative appendectomy rates of up to 40% have been reported in women of child-bearing age.[4,6,7] However there are significant clinical and financial costs incurred by patients undergoing negative appendectomy.[8] the medical and economic consequences of this approach are

difficult to justify in the current cost effective healthcare environment. In order to improve the diagnostic accuracy, many imaging techniques have been used including barium enema, ultrasonography, computed tomography (CT) and Magnetic Resonance Imaging (MRI). The ultrasonography as imaging modality in acute appendicitis was first popularized by Puylaert in 1986.[9,10] The use of CT in the diagnosis of acute appendicitis began in 1990 but its popularity increased with landmark study by Rao and colleagues published in 1998.[11,12] Further studies popularized CT scan as better imaging modality than ultrasonography because CT scan results showed high sensitivity, specificity and decreased negative appendectomy rate.[13-15] With the increased use of CT, concern has also increased about the effects of radiation exposure, particularly since the majority of the patients undergoing imaging for suspected acute appendicitis are relatively young. A few studies have used algorithms with ultrasonography as primary imaging modality after clinical evaluation and CT was reserved for cases where ultrasonography was inconclusive or negative.[16-18]

Materiel and Methods

This prospective study was carried at Prince Abdal Rahman Al Sudairi Central Hospital Sakakah, Al Jauf, Saudi Arabia, from July, 2010 to June, 2011. Patients presented in emergency department of hospital with acute pain right lower quadrant abdomen were included. Children 12 years and below, pregnant patients, and patients discharged from emergency department by treating physician without diagnostic imaging were not included. Also patients with renal failure and contrast medium allergy were excluded.

All patients had medical history, complete physical examination and basic laboratory investigations. A provisional diagnosis was made on these findings and recorded. Ultrasonography of abdomen was done for all patients by radiologist. If provisional diagnosis was made after ultrasonography, treatment was started. If ultrasonography findings were negative or inconclusive, CT was done with intravenous contrast. No oral or rectal contrast was used. CT findings were reported by the radiologist. The final diagnosis was made by ultrasonography/CT report, operative findings, histopathology report of the removed specimen and outcome of the treatment. All patients were followed for two months.

Results

128 patients were included in study. The mean age was 28 years (range from 12 to 51 years). Male were 52% of total and 48% were females. After completion of initial clinical work up and ultrasonography, we were able to make provisional diagnosis in 90 patients. Ultrasonography showed inflamed appendix in 76 patients, alternate diagnosis was made in 14 patients and in 38 patients report was normal or inconclusive. CT was done in these 38 patients. CT scan showed inflamed appendix in 15 patients and alternative diagnosis in 4 patients. In 19 patients CT report was normal. For statistical purpose, alternate diagnoses were taken as true negative as regards acute appendicitis of total 128 patients, 116 patients were admitted for surgery/observation and 12 patients were referred to other specialties. The referred patients were also followed with the treating physician. Total 91 patients were operated for open appendectomy. In 8 patients, appendix was looking normal per-operatively. So alternative pathology was searched, and in one patient, enlarged mesenteric lymph nodes were found. One was excised for histopathology. Appendectomy was done in all operated patients and specimen sent for histopathology. On histopathology acute appendicitis was confirmed in 85 patients and in 6 patients appendix was normal.

Table-1: Number of patients in all diagnostic modalities

Modality	No. Of Patients
Clinical dignoesis	128
Ultrasonography	128
CT Scan	38
Study of Algorithm	128

Table-2: Final diagnosis for all patients.

Diagnosis	No. Of Patients
Acute Appendicitis	85
INon-Specific Abdominal Pain*	24
Gynecological Disorders**	08
Right Ureteric Stone	05
Mesenteric Lymphadenitis	04
Crohn's Disease	02
Total	128

**Non-specific abdominal pain (NSAP) is not truly a diagnosis but merely negative patients, without disease. **Ovarian cyst, pelvic nflammatory disease, ovulation pain and tubo-ovarian abscess.*

Table-3: True & false positive and true & false negative for diagnostic modalities .

Diagnosis	No. Of Patients	True Positive	False Positive	True Negative	False Nagative
Clinical Diagnosis	128	72	17	26	13
Ultrasonography	128	71	05	38	14
CT Scan	38	14	01	23	Nil
Study algorithm	128	85	06	37	Nil

Table-4: Sensitivity, Specificity, Positive Predictive Value (PPV), Negative Predictive Value (NPV) and Accuracy of Diagnostic Modalities.

Modality	No. Of Patients	Sensitvity	Specificity	PPTV	NPV	Accuracy
Clinical Diagnosis	128	91%	60%	82%	79%	81%
Ultrasonography	128	84%	88%	93%	73%	85%
CT Scan	38	100%	96%	93%	100%	97%
Study algorithm	128	100%	86%	93%	100%	95%

Patients with normal CT scan report were also admitted under observation their symptoms relieved on conservative treatment. All patients were followed for two months. **Table 1** shows number of patients in all diagnostic modalities.There was no mortality. **Table-2** shows the list of final diagnosis of 128 patients. Sensitivity, specificity, positive productive value (PPV), negative productive value (NPV) and accuracy was calculated for clinical diagnosis alone, with ultrasonography, with CT scan and for whole study algorithm. This comparison is shown in **Table 3** and **4.**

Discussion

Ultrasonography and CT scan both have proven diagnostic value in suspected cases of acute appendicitis. The choice between ultrasonography and CT depends upon available expertise and institutional preference. Ultrasonography is rapid, noninvasive and inexpensive means of imaging inflamed appendix.[9] it doesn't need contrast material administration and not associated with exposure to ionizing radiation. As the examination is interactive, the patient can point to the most tender area and help in diagnosis. Ultrasonography is especially useful in pregnant patients, women of childbearing age and children. Difficulties with ultrasonography include the fact that a normal appendix must be identified to rule out acute appendicitis.[19] M Rioux, in 1992, claimed that he clearly identified normal appendix in102 (82%) of 125 patients without acute appendicitis[20], but most observers report that normal appendix is women of childbearing age and children. Difficulties with ultrasonography include the fact that a normal appendix must be identified to rule out acute appendicitis.[19]M Rioux, in 1992, claimed that he clearly identified normal appendix in102 (82%) of 125 patients without acute appendicitis[20], but most observers report that normal appendix is visualized in small minority of cases.[9,21]A normal appendix, when visualizes, appears as blind-ending tubular structure 5 mm or less in diameter. A confident diagnosis of acute appendicitis is made if non-compressible appendix measuring 7 mm or more in antero-posterior diameter is visualized.[21,22] Appendixes measuring between 5 to 7 mm are borderline in size. Visualization of normal appendix is more difficult in retrocecal appendix, in overweight patients and in presence of ileus. It is operator dependent technique and sensitivity and specificity varies between operators. Also tenderness at the area prevents compression by ultrasonography probe and limits examination. CT demonstrates superior sensitivity and specificity as compared to ultrasonography. The accuracy of CT relies in part on its ability to reveal a normal appendix better than ultrasonography. An inflamed appendix revealed on CT is larger than 6 mm in diameter with wall thickening, periappendiceal fat stranding and wall enhancement after contrast media infusion.[23] Disadvantages of CT include possible contrast-media allergy, exposure to ionizing radiation, and cost. However, the cost is considerably less than that of removing a normal appendix or hospital observation.[24]In our study, out of 128

patients, 85 were confirmed positive and 43 were negative as regards acute appendicitis. Clinical diagnosis had high sensitivity (91%), but low specificity (60%), i.e., lot of false positive cases. PPV, NPV and accuracy for clinical diagnosis was 82, 79 and 81 percent respectively. Keeping low threshold for making diagnosis of acute appendicitis during clinical examination increases the sensitivity (few missed cases) but decreases specificity (more negative appendectomies). Keeping high threshold has the effect vice versa. Ultrasonography was helpful in decreasing the false positive cases i.e., decreasing negative appendectomy rate. In our study sensitivity, specificity and accuracy of ultrasonography was 84, 88 and 85 percent respectively. Low sensitivity of ultrasonography is due to inability to visualize the appendix in every patient. Studies have shown the sensitivity and specificity of ultrasonography as 77-99 and 81-95 percent respectively.[13,17,22,25] We did CT scan in 38 patients. There was one false positive case but there was no false negative. Sensitivity and specificity of CT scan was 100 and 96 percent respectively with accuracy of 99%. In literature sensitivity and specificity of CT scan is reported as 87-100 and 83-100 percent respectively in diagnosis of acute appendicitis.[1,3,13,17] In our study algorithm i.e clinical evaluation followed by ultrasonography in all cases and CT scan in selected patients, the sensitivity and specificity was 100 and 86 percent respectively and accuracy was 95%. Negative appendectomy rate was 4.7% and there was no missed case of acute appendicitis. Studies following this algorithm have shown pathway sensitivity and specificity 97-100 and 86 percent respectively and negative appendectomy rate 3-8%.[16,17,18]

Conclusion

In suspected case of acute appendicitis, diagnosis algorithm using routine ultrasonography and optional CT yields high diagnostic accuracy. Although ultrasonography has low accuracy than CT, it can be used as primary imaging modality, avoiding disadvantages of CT. CT can be used where ultrasonography is negative or inconclusive. Patients with normal ultrasonography and CT findings can be safely observed.

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Case Report

XANTHO GRANULOMATOUS PYELONEPHRITIS PRESENTING AS MIGRATORY POLYARTHRITIS IN 40 YEARS OLD FEMALE IN DEPARTMENT OF MEDICINE IN SERVICES HOSPITAL, LAHORE.

Mujahid Israr, Rashid Iqbal,Khalid Mahmud Khan, Sajid Nisar, Ibrar ul Haq and Waleed Sabir

Abstract: We report a case of Xantho granulomatous pyelonephritis presenting with migratory polyarthritis in a 40 years old female patient. The patient presented to us with complaint of high grade fever and large joints pain and swelling. The diagnosis was confirmed with CT-scan abdomen and histopathology of specimen. Xantho granulomatous pyelonephritis is an unusual variant of chronic pyelonephritis. Fleeting arthritis is very rare presenting complaint of the disease.

Introduction

Xanthogranulomatous pyelonephritis, first described by schlugenhaufer in 1916, is a rare, serious, chronic inflammatory disorder of the kidney characterized by a destructive mass that invades the renal paranchyma.

Xanthogranulomatous pyelonephritis occurs in approximately 1% of all renal infections[1] .It is four times more common in women than in men and median age of presentation is 5th & 6th decade of life. Most cases are unilateral but bilateral cases have been reported. It is rare in pediatric population. Most cases occur in the setting of long standing obstruction due to renal stones, recurrent UTI with proteus, E.coli resulting in non-functional kidney. Other risk factors are diabetes and immuno compromised. Status of patient has massive destruction of kidney due to granulomatous tissue containing lipid-laden macrophages[2]. The appearance may be very confused with renal malignancy. Xanthogranulomatous pyelonephritis displays neoplasm like properties capable of local tissue invasion and destruction that has been referred to as a pseudotumor[3]. Adjacent organs including the spleen, pancreas or duodenum may be involved. Gross appearance is mass of yellow tissue with regional necrosis and hemorrhage superficially resembling carcinoma. Majority of cases presented with fever and flank pain. Few other presenting symptoms are anorexia, pyuria, dysuria, weight loss and hematuria[4]. Most commonly isolated organisms are proteus, E.coli, gram culture negative organism in some cases[5]. Treatment is always nephrectomy[6].

Case Report

An A 40 years old female resident of Lahore presented in the emergency with complaint of high grade fever and multiple large joints pain for last 10 days. High grade fever with rigors and chills only relieved by medications and was associated with sudden onset of pain and swelling of left knee joint. Joint was red, hot and tender with painful joint movements. On next day patient developed similar type of symptoms in right knee joint. The next day pain and swelling in right wrist joint started and left knee Joint pain and swelling improved but also on 4th day, she had involvement of left wrist joint.No history of chronic diarrhea, dysuria, burning micturition, hematuira, rash, red eye, sacro-ileitis and spinal involvement. No history of fever with joint pain in childhood. No history of flanks pain (loin to groin). No history of pervious sore throat. A review of system was unremarkable and patien, past medical and family history were non contributory. On examination both wrist joints and right knee joint were red, hot and tender.Tenderness over metacarpo-phalangeal joints bilaterally but no deformity and tenderness.Abdomen was soft and mildly tender in left iliac fossa but no guarding. No hepato splenom-egaly. Bowel sounds were audible.No lymphaden-opathy. Following investigations were obtained.

C.B.C: Hb:8.0, TLC:40, Platelets: 760. peripheral smear- neutrophils 80%, no blast and microcytes.

LFTs: Serum bilirubin: 1.10g/dl, SGPT 45 u/l, SG-OT 40 u/l, alkaline phosphatase 290 u/l

RFTs: BUN-32 mg/dl, Cr.1.6 mg/dl

Urine complete exam: Pus cell 8-10, Red cells ++, Protein +,Urine culture Negative.

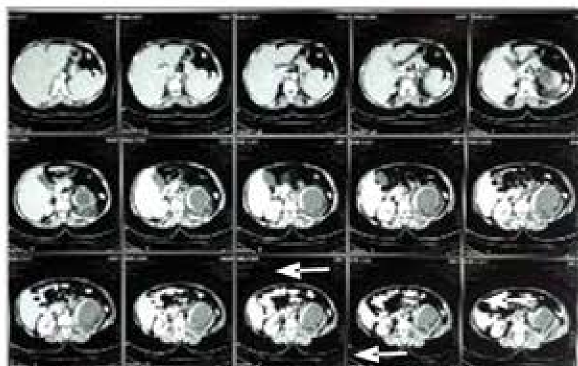
Blood culture: No growth,Uric Acid-30.

U/S abdomen: Left iliac fossa cyst and left kidney is not visualized. No hepatospleenomeagly, Serrum fer-ritin Norma, ASO titre Normal ,RA factor Negative, ANA-Negative, Anti CCp Negative, Hbs Ag-Nega-tive, Anti HCV- Negative.

On 4th day of admission patient developed left leg pain with painful leg movement.On 6th day of admission patient was afebrile. No joint pain but left leg pain worsens. On examination left iliac fossa

tenderness and painful left leg movements at hip but no swelling and redness of leg.CT- Scan done on 10th post admission day.CT- Abdomen- contrast: showed large left renal cyst, Left kidney transformed into a large cyst.Renal capsule intactCyst extending to illeo-psoas muscleTwo calculi size 2 cm and 1.2 c m

Fig-1



Discussion

We just want to discuss this case. It is very unusual case of Xantho granulomatous pyelonephritis. This patient presented to us with migratory polyarthritis and abnormal renal function test. We thought patient in lupus nephritis and associated with some auto immune disease of joints. We did all tests of auto immune profile which came out negative including ANA, Anti Ds DNA, Anti CCp.This patient also has illeopsoas extension leading to symptomatic leg pain which is also a very rare phenomenon and patient CT scan was done which later on proved Xantho granulomatous pyelonephritis. It has been seen that these types of cases are very rarely reported before. So we are reporting this case as Xantho granulomatous pyelonephritis which presented as migratory polyarthritis with derranged renal function test and illeopsoas extension.

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Medical News

Obesity: how much is in the genes?

Up to two thirds of American adults are already overweight, and one third are obese; for these people, maintaining weight can be a major challenge. The advance of the obesity epidemic has coincided with the abundance of palatable, highly processed, energy-dense foods and reduced physical activity levels, suggesting that environmental factors play a major role. However, the fact that some people do not become obese in this environment, and that responses to treatment approaches vary between individuals, suggests that genetic factors may also have an impact. To find out more about why avoiding weight gain is so difficult, the National Institutes of Health (NIH) Committee on Genes, Behavior and Response to Weight Loss Interventions created a Working Group to examine how genes affect weight, both at behavioral and biological levels. The group focused on genetic factors leading to weight loss and weight regain and identified future research directions and opportunities for incorporating new weight-loss treatment strategies. Variation in individual response to weight-loss strategies has already been documented, as has the likelihood that genetics plays a key role in the effectiveness of treatments. Previous studies have identified 150 genetic variants tied to body mass index (BMI), waist circumferences or obesity risk. However, little is known about the genes that determine why some people lose weight more easily than others.

Which genetic contributors affect weight gain and loss? The team wanted to study the genetics of weight loss and weight maintenance in order to understand the biology that underlies body weight regulation. This, they hoped, could lead to more efficient and targeted intervention strategies and medication. The Working Group identified many potential genetic contributors to weight loss and recommended further research.

The factors identified include the following:

1. Manifestation of an individual's genes: weight loss interventions may not affect overall body weight or BMI, but they may improve fat distribution, increase lean mass or reduce diabetes and cancer risk, suggesting that different types of measurements may provide insight into the process of weight loss
2. Genetic variants as predictors of obesity treatment response: some genetic variants appear to make particular treatments more successful for certain individuals. For example, those with a certain allele on the MTIF3 gene may find it easier to lose weight through intensive lifestyle interventions with a focus on diet and physical activity, while a specific FTO variation may lead to greater weight loss following bariatric surgery
3. Biological systems that influence food intake and physical activity: epigenetics (chemical modifications of genes that may be the result of exposures to certain environments) and the gut microbiome (microorganisms that naturally live in our stomach and help with balancing metabolic function) have been shown to have lasting effects on weight
4. Genetic impact on food preferences, eating and drinking behavior and physical activity: certain genes may lead to a greater preference for and consumption of high-calorie foods
5. Genetics of physical activity: genetic differences have been linked to both those who exercise and those who do not, as well as adherence to an exercise plan and exercise tolerance.

Lead author Dr. Molly Bray, professor of nutrition sciences at the University of Texas-Austin, says:

"It's easy to get frustrated, especially during the holiday season. After the New Year, losing those extra few pounds gained over the holidays is not the biggest challenge; it is maintaining that weight loss over the long term that can be the most difficult."

Leveraging these findings, she says, and expanding research could help to provide personalized medicine for obesity. A better understanding of these factors could lead to precision weight-loss treatments with dietary, physical activity and other methods customized to each individual. Dr. Bray concludes that we now understand much more about what drives eating behavior, how fat cells are formed and how metabolism changes before and after obesity sets in. The next step is to apply this data more effectively to treat obesity and related conditions, including diabetes, cardiovascular disease and cancer. Medical News Today recently reported that aerobic exercise does not always counter the effects of obesity.

Written by Yvette Brazier

Courtesy: medicalnews.com