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Pakistan: A Cirrhotic State in Need of a Savior!

Prof. Aftab Mohsin

In Pakistan Liver disease and its sequel has assumed pandemic proportions. Lancet a reputable international medical journal termed Pakistan as a Cirrhotic state in one of its articles. The prevalence of causative chronic hepatitis viruses is between intermediate and high. Prevalence of HBV Hepatitis B Virus is 3-4% and HCV Hepatitis C Virus is a staggering 6-20%.

Cirrhosis and its sequel upper gastrointestinal bleeding, encephalopathy, ascites, swelling of the body and Hepatocellular carcinoma have become the commonest cause for admission, as well as the mortality in the tertiary care hospitals all over Pakistan.

The present health care facilities are over-whelmed by the burden of chronic liver disease. There is an ever increasing gulf between what ought to be done and what is being done. The training facilities for health care professionals in the discipline of liver disease are far and few in-between.

The diagnostic services for appropriate diagnosis of liver disease and its complications are scarce, expensive and lacking in standardization.

Immense opportunities exist to carry out research and publication in this field and lead our part of the World from front.

Many thousands of patients are in need of liver transplantation and no such facility exists in Pakistan which would provide this life saving procedure. Overseas the liver transplantation is phenomenally expensive and hard to access.

While it is a universal fact that the prevention is better than cure and while we continue to struggle for creating awareness amongst masses to minimize further spread, it is need of the nation to have state of the art institute of liver diseases in order to provide:

State of the art treatment including previously non-existent liver transplantation.

To provide adequate diagnostic services.

To carry out research and publication.

To provide training to doctors as well as other health care professionals working in this discipline.

We are in dire need of an independent institute of liver disease, independent in administration, finance, academics as well as location with a capacity to expand. It is humiliating to see patients go to our neighboring countries for treatment of a disease which is rampant in Pakistan. We will need foreign collaboration for acquiring expertise and technology. Malaysia another Muslim country have replicated liver transplant program from Singapore very successfully.

Despite all the endeavors Pakistan is still looking for a savior. One who will implement the vision of liver institute. In medical circles the echoes of who will be the savior continue to haunt and remain unanswered!

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**Review Article**

**AUTONOMY VERSUS SANCTITY OF LIFE**

Kaiser Mahmood

**Abstract:** Over the last fifty years, people have become increasingly concerned that the dying process is too often needlessly protected by medical technology and is consequently marked by intolerable pain and dignity. This useless prolongation of life invites a debate called euthanasia i.e. the act of bringing about the death of a hopelessly ill and suffering person in a relatively quick and painless way for reasons of mercy. The autonomy model of clinical decision making is firmly grounded in the dignity of human persons i.e. individuals are at liberty to make their own medical treatment decisions. The notions of individual’s rights and autonomy, no doubt, have been gathering strength in our age. But, the patient’s autonomy model does not give sufficient attention to the impact of disease on the patient’s capacities for autonomy. Medicine should restore the patient’s autonomy but autonomy argument does not have any standing in the face of the sanctity of life, which is endorsed by all the major religions of the world.

**Keywords:** Euthanasia, Physician-assisted Suicide, Autonomy and Value of life.

**Discussion**

Birth and death are both natural events. Most societies throughout history have had philosophical or religious beliefs about death. Perceptions of death vary and reflect values and philosophies. Once, death was a dreadful topic. Recently people have developed a healthier attitude toward death - an attitude that seeks to understand it, to explore the emotional, the moral and practical issues surrounding it.

We are living in a strange world where our achievements are producing problems for us and this world is also full of so many tragic dilemmas. These dilemmas are inviting the attention of physicians and philosophers. The answers to these major problems or issues do not come easily. Euthanasia is one of the controversial issues of this age. The word 'euthanasia' comes from Greek word and originally meant 'a good or easy or happy death.' In modern usage euthanasia has come to mean painlessly bringing about the death of a person who is suffering from a terminal or incurable disease.

Physician assisted suicide, PAS, is one of the major types of euthanasia. It is basically a form of suicide with the doctor providing the means to carry it out or providing information to a patient about how to commit suicide in an effective manner. In 1990, Dr. Jack Kevorkian, a retired pathologist and trained physician assisted about 130 patients in committing suicide. In most cases he provided them with a simple “suicide machine”, that they could operate by pushing a lever with one finger, so as to inject a lethal dose of potassium chloride through an intravenous needle he

<table>
<thead>
<tr>
<th>S#</th>
<th>Type</th>
<th>Description</th>
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<tbody>
<tr>
<td>(I)</td>
<td>Voluntary euthanasia</td>
<td>Patient wishes to die and express this wish.</td>
</tr>
<tr>
<td>(II)</td>
<td>Nonvoluntary euthanasia</td>
<td>When person has lost Capacity.</td>
</tr>
<tr>
<td>(III)</td>
<td>Active euthanasia</td>
<td>Person’s death is caused directly by an action performed by another person</td>
</tr>
<tr>
<td>(IV)</td>
<td>Passive euthanasia</td>
<td>The omission of actions that would prolong life e.g. withholding of medicine</td>
</tr>
<tr>
<td>(V)</td>
<td>Physician-assisted suicide</td>
<td>Physician helps a person bring about a self-inflicted death by, for example</td>
</tr>
</tbody>
</table>
he attached to them. Other times he made available a mask through which they breathed carbon monoxide.

In 1997, Oregon legalized physician-assisted suicide. There is an ethically relevant distinction between euthanasia and PAS that makes assisted suicide an ethically more attractive option. Physician-assisted suicide affords a patient a more autonomous way of ending his or her life than euthanasia. However, the ethical objections to physician-assisted suicide are similar to those of euthanasia since both are essentially interventions intended to cause death.

The autonomy argument is quite common in the debate of euthanasia i.e., individuals have the right to decide about their own lives and deaths. The basic argument in favour of euthanasia as a moral act involves a person’s right over his or her own body and life and is also concerned with the freedom of a person to make decisions affecting his or her own body and life. Life is important but to whom? Mostly to the person to whom it belongs, of course. Since euthanasia is an individual decision made by a person about his or her own life, it cannot be described as taking a life against a person’s will. Therefore, it does not fully violate the Value of Life Principle, i.e., life is the gift of God and it should be preserved.

The concept of autonomy plays a vital role in the ethics and laws of biomedical practice. Well-known figures in Philosophy ranging from Immanuel Kant (1724-1804), German philosopher, to John Stuart Mill (1806-1873), British philosopher, Nietzsche (1844-1900), German existentialist, and Sartre (1905-1980), French philosopher have held that morality requires autonomous persons. Autonomy is sometimes subdivided into autonomy of action, autonomy of will and autonomy of thought. Immanuel Kant strongly believed that morality can be summed up in one ultimate principle, from which all our obligations are derived. He called this principle the Categorical Imperative. Kant is often referred to: violating somebody’s autonomy is to violate his humanity and to treat him as an object. In the *Groundwork of the Metaphysics of Morals* (1785), Kant expressed it like this:

> It seems then, that in the idea of freedom we have actually only presupposed the moral law, namely the principle of the will itself.

Kant further writes:

> With the idea of freedom the concept of autonomy is now inseparably combined and with the concept of autonomy the universal principle of morality, which in idea is the ground of all actions of rational beings, just as the law of nature is the ground of all appearances.

John Stuart Mill, in his book *On Liberty*, a classic text of liberal political philosophy, conveys that each individual should have an extensive sphere of liberty into which society may not legitimately intrude. Mill is of the view that paternalism is not a valid principle for restricting liberty because it violates individual rights and allows too much restrictions of free choice.

Jean-Paul Sartre argued that there was no such thing as a given “human nature” determining how people act or behave. In Sartre’s view, existence comes before essence, meaning that human being enjoying the freedom to define themselves through their own actions and deeds. Freedom, Sartre thinks, goes hand in hand with consciousness.

As Sartre writes:

> If existence really does precede essence, there is no explaining things away by reference to a fixed and given human nature. In other words, there is no determinism, man is free, man is freedom. On the other hand, if God does not exist, we find no values or commands to turn to which legitimate our conduct. So, in the bright realm of values, we have no excuse behind us, not justification before us. We are alone, with no excuses. That is the idea I shall try to convey when I say that man is condemned to be free. Condemned, because he did not create himself, yet in other respects is free, because, once thrown into the world, he is responsible for everything he does.

Religion has made a great contribution in the preparation of a moral basis for human life. All religions have extolled moral virtues and have urged men to follow the path of truth, goodness and righteousness. Religious teachings, no doubt, are important sources of beliefs about the morality of intentionally ending a human life. In order to discuss the sanctity of life argument, I shall analyze the viewpoints of the some major religions of the world.

**Hinduism**

Among the dozens of doctrines of Hinduism that have fascinated peoples all over the world, none is more interesting than the concept of reincarnation or its Hindu term, Samsara, a course or succession of states of existence. Many Hindus believe that most individuals will be reincarnated again and again, passing through death and rebirth through many lifetimes. The cause of these rebirths lies in one’s Karma, the action one performs.

Ahimsa, is an important attitude for understanding a number of Hindu ethical stances. Ahimsa is commonly translated as “nonviolence” or “noninjury.” Gandhi regarded ahimsa as the foundation of human progress. At first glance, the teaching on ahimsa seems to argue against assisted suicide and active euthanasia.
Christianity

Christianity also share many beliefs with Islam. Among these is the belief that God has the authority to give and take away life. When humans take it upon themselves to shorten their lives, they play God. Traditional Christianity regards suicide as self-murder and therefore, physician assisted suicide and euthanasia as forms of assisted self-murder or direct murder.\(^1\)

Islam

In Islam, the Shariah (Islamic laws) does not recognize a patient's right to die voluntarily because life is a divine trust and cannot be terminated by any form of euthanasia. The Holy Quran points out that pain is a form of test or trial, to confirm a believer's spiritual station. Muslims in general view affliction with a disease, fatal or otherwise, as a test of their faith and true resignation to their Creator. Infact, such tribulation contributes in their favour in that it helps to expiate their minor sins. This is quite evident from the following hadith.

"When a Muslim is tired with a disease in his body it is said to the angel, write for him the good actions which he used to do. If the (Allah) gives him (of all sins): and if he takes his life (as a result of this disease), He forgives him and shows mercy upon him."

The Islamic Code of Medical Ethics endorsed by the First International Conference on Islamic Medicine, Kuwait, 1981 includes: "the doctor is well advised to realize his limit and not to transgress it. In any case, the doctor shall not take positive measure to terminate the patient's life."

So, the sanctity of human life is a basic value as decreed by God even before the times of Moses, Jesus, and Muhammad (PBUH). Even the most primitive society has something to say about killing in general.

Now, the question is, "Is there any autonomy without life?" Infact, autonomy is a diverse set of notions embracing liberty, rights, privacy and so on and there are so many different definitions of autonomy that it can be very difficult to apply this debate. As a matter of fact, autonomy requires life. We cannot make an autonomous decision if we are not alive. So, it is difficult to consider placing autonomy above life. In the discussion of euthanasia, the notion of autonomy has become a slogan which has done a great deal of harm. We, in fact, do not know that autonomy also brings certain duties to our family, the community and those who come after us. Death is not a private matter. But, we must remember that personal autonomy has its limits. We are not free to do things which limit or violate the reasonable freedom of others. Simply speaking, no individual has absolute freedom. Even "A Patient's Bill of Rights", which was drawn up by the American Hospital Association, patients are accorded, among other rights, "the right to refuse treatment to the extent permitted by law and to be informed of the medical consequences" of their actions.\(^1\)

The question of autonomy, no doubt, is one of the big issues in the public debate on the legalization or justification of voluntary euthanasia. At the same time, there are many definitions of autonomy that it can be difficult to apply to this debate. Life has a higher value than autonomy because autonomy is limited by the extent of a person's knowledge.

Conclusion

Autonomy does not exist without life. Autonomy requires life. We cannot make autonomous decisions if we are not alive. Unfortunately, in most of the countries the notion of autonomy has become a slogan which has done a great deal of harm. In fact, autonomy is not just the right to do what ever you like with your life. I strongly believe that autonomy always brings certain duties to our family, the community and those who will come after us. Finally, the autonomy argument does not have any value, before the sanctity of life argument.

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References

PICTURE QUIZ

This lady presented with polyuria, polydipsia and weight loss. On examination this lesion was found on her breast. Investigations revealed low osmolality urine and 24 hour urinary output was 4.5 L. Bone scan revealed extensive areas of increased isotope intake including base of skull.

What is the lesion show?
How will you confirm the diagnosis?
What is the most likely cause of her urinary abnormalities?

Answer of Picture Quiz on Page 21
PREVALENCE OF HEPATITIS B, C AND HIV IN BLOOD DONORS OF SOUTH PUNJAB

Waqas Jehangir, Farooq Ali, Usman Shahnawaz, Tehseen Iqbal and Hamid Javaid Qureshi

Background: Hepatitis B, C and AIDS are dreadful diseases transmitted through the blood transfusion. This study was carried out to find out the prevalence of these in blood donors of South Punjab and to compare it with national and international data.

Material and Methods: The blood from 25631 donors were screened for hepatitis B, C and HIV.

Results: Out of 25631 blood donors, 24447 (95.38%) were male and 1184 (4.62%) were female. Blood was positive in 4.93% for HBs Ag, 4.06% for HCV and negative for HIV.

Conclusion: The present study has shown a high prevalence of hepatitis B and C in blood donors of South Punjab. HIV was not detected in any blood donor.

Key words: Hepatitis B and C, HIV

Introduction
Hepatitis B, C and AIDS (Human Immune Deficiency Syndrome) viruses can be transferred to the recipients of blood transfusion. The demand for blood transfusion is increasing due to endemicity of infections causing anemia, malnutrition, surgical and obstetrical emergencies associated blood loss . Hepatitis B, C and AIDS are important public health problems world wide. Transmission of these dreadful diseases warrants careful screening of blood donors. Acute and chronic viral hepatitis are common public problem in Pakistan and are associated with serious complications. Cases of AIDS have also been reported. Screening for hepatitis B, C and HIV is carried out routinely in the blood banks. The purpose of this study was to determine the prevalence of Hepatitis B, C and AIDS in blood donors of South Punjab.

Materials and Methods
This data was collected by the members of the Blood Donor Society, Nishtar Medical College, Multan from the Blood Transfusion Center, Nishtar Hospital / Nishtar Medical College, Multan for the period, January 2005 to December 2005. During this period, 25631 blood donors attended the Blood Transfusion Center.

For HBs Ag, HCV and HIV detection, 5 ml blood was taken from each subject. It was centrifuged for 5 minutes to obtain the serum. It was tested for HBs Ag, HCV and HIV. HBs Ag and HCV were assayed by enzyme linked immunosorbant assay kit (Murex Diagnostic Ltd, UK). HIV was tested by using HIV-1/HIV-2 Latex reagent - Trinity Biotech.

Results
The blood from 25631 donors were screened for hepatitis B and C and HIV. Out of these blood donors 24447 (95.38%) were male and 1184 (4.62%) were female. (Table 1)

H Bs Ag was positive in 1254 (4.93%) of the blood donors (4.82% of the male and 7.18% of the female donors). HCV was positive in 1042 (4.06%) of the blood donors (3.94% of the male and 6.59% of the female donors). No blood donor was positive for HIV (Table 2).

Table-1: Sex distribution in blood donors.

<table>
<thead>
<tr>
<th></th>
<th>Male blood donor</th>
<th>Female Blood donor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers</td>
<td>24447</td>
<td>1184</td>
<td>25631</td>
</tr>
<tr>
<td>Percentage</td>
<td>95.38%</td>
<td>4.62%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table-2: Number and Percentage of Blood Donors Positive for HBs Ag, HCV and HIV.

<table>
<thead>
<tr>
<th></th>
<th>Male blood donor</th>
<th>Female Blood donor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>1179</td>
<td>85</td>
<td>1254</td>
</tr>
<tr>
<td>Percentage</td>
<td>48.2%</td>
<td>7.18%</td>
<td>4.93%</td>
</tr>
<tr>
<td></td>
<td>964</td>
<td>78</td>
<td>1042</td>
</tr>
<tr>
<td></td>
<td>-3.94%</td>
<td>6.59%</td>
<td>4.07%</td>
</tr>
<tr>
<td>HIV</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
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Discussion

Protection of the blood supply from virus infected blood donation has reached a very high level due to effective donor selection and testing with latest techniques. In the present study, blood donors were predominantly males (95.38%). Of the blood donors screened, 4.93% were positive for HBs Ag while 4.07% were positive for HCV. No blood donor was positive for HIV. In Nigeria, the reported values are 14.3% for HBs Ag and 25.9% for HIV. In Tanzania, the prevalence is 3.8, 8.8% and 1.5% for HBs Ag, HCV and HIV respectively. From Greece, the values reported are 0.41%, 0.37% for HBs Ag and HCV. In a study conducted in Qaseem, Saudi Arabia, Saudis had a higher prevalence of hepatitis B as compared to hepatitis C. In blood donors screened in Punjab Institute of Cardiology, Lahore, HBs Ag was positive in 2.1% of the donors. The prevalence reported from NWFP is 1.9%, 2.2% for HBs Ag and HCV respectively. The prevalence reported from Karachi is 2.2%, 0.5% and 0% for HBs Ag, HCV and HIV respectively. Results of a study in Abbottabad are HBs Ag positive in 1.55% and HIV negative. The screening of blood donors in Peshawar showed 1.40%, 1.34% and 0% prevalence for hepatitis B, C and HIV respectively. In another study in Peshawar, the results were 1.3% and 2.2% positive for hepatitis B and C. Asif et al reported a prevalence of 2.51%, 5.14% and 0.25% respectively for HBs Ag, HCV and HIV in replacement donors from Islamabad. The present study carried out in 25631 blood donors showed a higher prevalence rate (4.93% for HBs Ag and 4.07% for HCV) which is alarming. HIV was not detected in any blood donor. The higher prevalence rate may be due to larger number of blood donors screened in the present study as compared to number of subjects included in other studies in Pakistan.

REFERENCES


Prevalence of Hbs Ag & Anti HCV in Pregnant Ladies Attending Antenatal Clinic at Sheikh Zayed Medical Complex, Rahim Yar Khan

Abdul Hakeem, M. Suleman Khan, M. Abdullah, M. Abdul Rehman and M. Ikram Hashmi

Background: Hepatitis B & C viruses are related to chronic liver disease, cirrhosis and hepatocellular carcinoma. Their modes of transmission are mainly parenteral and vertical (HBV). Attempt has been made to assess the prevalence of these viruses in pregnant women, who attended antenatal clinic at Sheikh Zayed Medical Complex, Rahim Yar Khan.

Subjects & Methods: Four hundred & fifty pregnant women, who came for their antenatal checkup at OPD Sheikh Zayed Medical Complex Rahim Yar Khan, were included in the study. To avoid duplication, the women on their next visits were not included. Study duration was from 1st January to 30th June 2006. All the cases were screened for HBsAg & Anti HCV by 3rd generation ELISA method. Positive cases for HBsAg were advised to have active as well as passive immunization of their new born babies within 24 hours, (preferably within 12 hours) of birth. Anti HCV positive ladies were guided to proceed for HCV-RNA detection by PCR technique to diagnose the active disease.

Results: Out of 450 cases, 82 (18.2%) were Anti HCV positive, 54 cases (12.0%) were found HBsAg positive. Combined infection of both HBV & HCV was found in 13 (2.9%) cases.

Conclusion: HBV & HCV infections are alarmingly high in the screened group of population in the area. Proper evaluation of modes of transmission is needed for control and prevention. All pregnant ladies should be screened at least for HBsAg and neonates, born to HBsAg positive mothers, should be subjected to active as well as passive immunization to minimize the vertical transmission of HBV. All anti-HCV positive ladies who are negative for HBsAg should be vaccinated for Hepatitis B to avoid co-infection, which is multifold dangerous for liver, as compared to single HBV or HCV infection.

KeyWords: HBsAg, Anti HCV, Hepatitis B, Hepatitis C, Liver.

Introduction

The Hepatitis B virus is a double stranded DNA virus. The global prevalence of HBV infection is the highest (>8%) in Asia as compared to the lowest (<2%) in western Europe. The primary vehicles for transmission are blood, blood products and body fluids. The categories at risk are those, receiving blood transfusions, undergoing dialysis, IV drug abusers, homosexuals and cases of needle-stick accidents among health care workers.

The spread of virus from infected mother to a neonate during birth is known as vertical transmission, which is common, leading to carrier state for life in most cases. In the carrier state the patient may remain asymptomatic and without liver damage but in cases of chronic HBV replication, progressive liver damage is mandatory. The estimated carrier rate of HBV is about 350 millions world wide, while liver damage due to its infection is also a serious global problem. Both HBV & HCV have significant role in the development of hepatocellular carcinoma.

Hepatitis C virus is a single stranded RNA virus having flav-virus like properties. It was first identified in 1988. Transmission is almost similar as HBV. Sexual and vertical transmission is comparatively low, and seen in individuals having high level of HCV-RNA in their blood. Multiple sex partners may increase the risk of HCV infection. Still in many cases, source of infection is unknown. Its incubation period is 67 weeks. It is considered to be the major cause of chronic liver disease (70-75 % go to chronic state of hepatitis and 15-20 % may develop cirrhosis) and hepatocellular carcinoma. Its prevalence varies from 0.5-29% in general population around the world. In India it has been reported to be 5.1%, whereas in Pakistan it varies from 0.5 to 25.7%. Main objective of our study was to assess the frequency of HBsAg & Anti HCV in the pregnant ladies and to highlight the magnitude of the problem, so that safety measures can be devised to prevent the spread of these infections.
Prevalence of Hbs Ag & Anti HCV in Pregnant Ladies Attending Antenatal Clinic at Sheikh Zayed Medical Complex, Rahim Yar Khan

Abdul Hakeem, M. Suleman Khan, M. Abdullah, M. Abdul Rehman and M. Ikram Hashmi

Background: Hepatitis B & C viruses are related to chronic liver disease, cirrhosis and hepatocellular carcinoma. Their modes of transmission are mainly parenteral and vertical (HBV). Attempt has been made to assess the prevalence of these viruses in pregnant women, who attended antenatal clinic at Sheikh Zayed Medical Complex, Rahim Yar Khan.

Subjects & Methods: Four hundred & fifty pregnant women, who came for their antenatal checkup at OPD Sheikh Zayed Medical Complex Rahim Yar Khan, were included in the study. To avoid duplication, the women on their next visits were not included. Study duration was from 1st January to 30th June 2006. All the cases were screened for HBsAg & Anti HCV by 3rd generation ELISA method. Positive cases for HBsAg were advised to have active as well as passive immunization of their new born babies within 24 hours, (preferably within 12 hours) of birth. Anti HCV positive ladies were guided to proceed for HCV-RNA detection by PCR technique to diagnose the active disease.

Results: Out of 450 cases, 82 (18.2%) were Anti HCV positive, 54 cases (12.0%) were found HBsAg positive. Combined infection of both HBV & HCV was found in 13 (2.9%) cases.

Conclusion: HBV & HCV infections are alarmingly high in the screened group of population in the area. Proper evaluation of modes of transmission is needed for control and prevention. All pregnant ladies should be screened at least for HBsAg and neonates, born to HBsAg positive mothers, should be subjected to active as well as passive immunization to minimize the vertical transmission of HBV. All anti-HCV positive ladies who are negative for HBsAg should be vaccinated for Hepatitis B to avoid co-infection, which is multifold dangerous for liver, as compared to single HBV or HCV infection.

Key Words: HBsAg, Anti HCV, Hepatitis B, Hepatitis C, Liver.

Introduction
The Hepatitis B virus is a double stranded DNA virus. The global prevalence of HBV infection is the highest (>8%) in Asia as compared to the lowest (<2%) in western Europe. The primary vehicles for transmission are blood, blood products and body fluids. The categories at risk are those, receiving blood transfusions, undergoing dialysis, IV drug abusers, homosexuals and cases of needle-stick accidents among health care workers.

The spread of virus from infected mother to a neonate during birth is known as vertical transmission, which is common, leading to carrier state for life in most cases. In the carrier state the patient may remain asymptomatic and without liver damage but in cases of chronic HBV replication, progressive liver damage is mandatory. The estimated carrier rate of HBV is about 350 millions world wide, while liver damage due to its infection is also a serious global problem. Both HBV & HCV have significant role in the development of hepatocellular carcinoma.

Hepatitis C virus is a single stranded RNA virus having flavi-virus like properties. It was first identified in 1988. Transmission is almost similar as HBV. Sexual and vertical transmission is comparatively low, and seen in individuals having high level of HCV-RNA in their blood. Multiple sex partners may increase the risk of HCV infection. Still in many cases, source of infection is unknown. Its incubation period is 67 weeks. It is considered to be the major cause of chronic liver disease (70-75%) go to chronic state of hepatitis and 15-20% may develop cirrhosis) and hepatocellular carcinoma. Its prevalence varies from 0.5-29% in general population around the world. In India it has been reported to be 5.1%, whereas in Pakistan it varies from 0.5 to 25.7%. Main objective of our study was to assess the frequency of HbsAg & Anti HCV in the pregnant ladies and to highlight the magnitude of the problem, so that safety measures can be devised to prevent the spread of these infections.
Materials & Methods
This study was conducted in the Department of Pathology, Sheikh Zayed Medical College, Rahim Yar Khan. Study period was from 1st January to 30th June 2006. A total number of 450 pregnant women, who came in OPD Sheikh Zayed Hospital Rahim Yar Khan for their antenatal checkup, were included in the study. Blood samples were drawn by 5 cc disposable syringes and labeled properly. Almost all the women were apparently symptom free for liver disease. Care was taken not to take their samples during next visits to avoid duplication.

The serum samples were analyzed for HBsAg and anti HCV by ELISA technique. (being most reliable), and results were calculated.

All positive cases for HBsAg were contacted and advised to get their coming newborns actively immunized by HBV vaccine (1st dose) as well as passively (HBIG) within 12.24 hours of birth, preferably within 12 hours. Mothers were also advised to complete the remaining vaccination course of their babies. All the anti HCV positive females were guided for their HCV RNA detection by PCR technique to evaluate active disease. They were also advised to get HBV vaccination done after delivery, so that coinfection by HBV may be prevented.

Results
Out of all 450 samples, 54 (12%) were found positive for HBsAg. Anti HCV antibodies were found in 82 (18.2%) pregnant ladies, which is alarmingly high. Co-infection of both HBV & HCV was observed in 13 (2.9%) of the cases which is also significant. The results are shown in Figure-1.

Discussion
Hepatitis especially Hepatitis C is rapidly spreading disease in our community. Its high prevalence rate needs more effective evaluation regarding its modes of transmission. It is the most common cause of chronic liver disease, cirrhosis & hepatocellular carcinoma worldwide.

A study in Faisalabad on healthy blood donors reported 20.89% anti HCV positive cases, the data of which is slightly above, that of our study.

Bhopal et al have reported 16.31% of the general surgical patients positive for anti HCV in Rawalpindi, which is relatively closer to our data.

Tariq et al observed very high prevalence rate of anti HCV (25.7%) in northern Pakistan which might be due to their sampling from high risk groups. In contrast, the seroprevalence of Hepatitis C was 2.52% and Hepatitis B was 2.45% in a study performed on healthy blood donors at Fauji Foundation Hospital Rawalpindi. In a study by Hayashi et al in Japan, 19.71% prevalence of Anti HCV in the rural area was observed, which is very closely related to our study. HBsAg was also detected in a female member (12.9%) of the study group, which is quite high. If they are not properly screened and immunophylaxis is not given to their neonates, they are at risk of developing chronic carrier state of HBV or ultimately to cirrhosis and hepatocellular carcinoma.

Conclusion
Vertical transmission is the usual mode of hepatitis B transmission and blood transfusion for hepatitis C (more than 90% of cases) worldwide. Keeping in view, increasing number of cases in pregnant ladies, heroic measures are needed to limit the spread of infection. Street barbers, dentists and ear piercers may be registered with local health authorities, so that they follow a safety protocol. Print and electronic media can also play a pivotal role along with launching an awareness campaign. Such programmes at frequent intervals may be encouraging for public knowledge and at the same time will discourage the malpractice related to risk factors.

Local studies done in our population show blood transfusion, reuse of syringes and IV drug abuse, as main risk factors for transmission of Hepatitis B & C viruses. Moreover, ear piercing and blood transfusions are among the leading predisposing factors for transmission of Hepatitis B & C in females.

Vertical transmission of HBV is significantly high, which is a major contributing factor in its high prevalence. We can reduce up to 85% transmission of HBV just by immunizing all the neonates, born to
HBsAg positive mothers, as a result of which, carrier rate of HBV may be significantly reduced. This is only possible by co-ordination of Health authorities, health care workers, and awareness campaigns in general public.

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References


New Discovery For Treatment Of Stroke:
An American company FASgen has announced the recent publication of important results from research into a potential treatment for stroke using one of FASgen's proprietary compounds, C75. The Company is a leader in the research in the field of FASI (fatty acid synthase inhibition). One area of that research has been for the treatment of metabolic disease disorders, including obesity. As the regulation of appetite is centered in the hypothalamus in the brain, research was undertaken to evaluate the safety of the Company's compounds in the brain. An unexpected and significant discovery resulted when the studies demonstrated not only that the compounds were non-toxic in the brain, but also they had the positive effect of providing significant neuroprotection in the case of ischemic stroke. In the stroke models tested, the Company's compound C-75 reduced AMPK levels and resulted in neuroprotection by reduced stroke damage, even when administered post-stroke. These remarkable findings were recently published in the article, "Neuroprotective Effects of Adenosine Monophosphate-Activated Protein Kinase Inhibition and Gene Deletion in Stroke," McCullough et al, Stroke 2007, 38; 2992-2999 (December 11, 2007). The Company has designed and synthesized many compounds that selectively inhibit fatty acid biosynthesis. One group of these compounds holds great promise for new highly specific therapeutics for cancer; additional compounds have the potential of specific therapeutics for obesity and related metabolic disorders; and, an additional group of compounds have the potential of specific therapeutics for TB, including multiple drug resistant TB (MDR-TB) and latent TB infections that affect one third of the world's population.

A New Discovery In Obesity Research:
An American company FASgen reported the publication of important new research results in the obesity field using FAS89B. FASgen is a leader in the field of research into selective inhibition of fatty acid synthase (FASI), and has conducted extensive research in the area of metabolic disease disorders, specifically for the treatment of obesity and fatty liver disease. The Company has a long-standing cooperation with The Johns Hopkins University, and that joint research has produced the new discoveries in the regulation of weight loss by the stimulation of carnitinepalmitoyl-transferase-1 (CPT-1). FAS89B was characterized in vitro as a selective inhibitor of brain CPT-1 and produced in vivo results in mice of decreased feeding for three days and persistent weight loss of six days, with no evidence of conditioned taste aversion. This new discovery adds another tool for FASgen to use, in addition to FASI and GPATi compounds already in research, in its ongoing program of research into the field of treatment for obesity and fatty liver disease.
Background: Anaemia is very common in developing countries especially during pregnancy. Hyperhomocysteinemia can result from genetic or nutrient-related disturbances in the transsulfuration or remethylation pathway for homocysteine metabolism. Inadequate intake of vitamin B₉, B₁₂, or folate may underlie some cases of elevated homocysteine levels. The aim of this study was to investigate the possible relationship between plasma homocysteine level, haemoglobin level and 24-hour urinary protein in pre-eclamptic patients. Folic acid deficiency is one of the major causes of hyperhomocysteinemia which is one of the major risk factors for pre-eclampsia [PET]. Severe proteinuria of several grams/day occurs in pre-eclamptic toxemia.

Methods: A cross-sectional comparative study was carried out on 90 primigravida attending the "antenatal clinic" of Services Hospital, Lahore. Out of these 60 primigravida 30 were mildly pre-eclamptic and 30 were severely pre-eclamptic at 30-38 weeks of pregnancy. 30 primigravida [30-38 weeks of pregnancy] having uncomplicated pregnancy were taken as control.

Results: The results show that in mild PET and in severe PET, the plasma homocysteine level shows a significant relationship with 24-hour urinary protein and haemoglobin level.

Conclusion: Anaemia [folic acid deficiency] is one of the important risk factor in the causation of hyperhomocysteinemia which is one of the major chronic risk factors for eclampsia.

Keywords: Hyperhomocysteinemia, anaemia, mild PET, severe PET.

Introduction
Anaemias of diminished erythropoiesis are caused by an inadequate supply of some substances to the bone marrow which are necessary for erythropoiesis. The most common deficiencies are those of iron, folic acid and vitamin B₁₂. It is essential that 10% of the population in developed countries and as much as 25-50% in developing countries are anaemic. Iron deficiency accounts for most of this prevalence. Increased demands not met by normal dietary intake occur around the world during pregnancy and infancy. When iron deficiency develops there is a decrease in circulating iron, with a low level of serum iron and a rise in serum transferrin iron binding capacity. Ultimately, the inadequacy makes its impact on haemoglobin, myoglobin and other iron compounds.

There are two principal types of megaloblastic anaemia. One caused by a folate deficiency and another caused by lack of vitamin B₁₂. These anaemias may be caused by a nutritional deficiency [folic acid] or may result from impaired absorption [vitamin B₁₂]. Both of these vitamins are required for DNA synthesis and hence the effect of their deficiency on erythropoiesis are quite similar. High risk of clinically significant folate deficiency associated with poor diet and increased metabolic needs [as in pregnant woman and patients with chronic haemolytic anaemias]. Inadequate levels of vitamin B₁₂ or cobalamin in the body results in pernicious anaemia. The metabolic defects induced by vitamin B₁₂ deficiency are intertwined with folate metabolism. Vitamin B₁₂ is required for recycling of tetrahydrofolate and hence its deficiency reduces availability of the form of folate that is required for DNA synthesis. Both folate and vitamin B₁₂ deficiency give rise to megaloblastic anaemia. So iron deficiency, folic acid deficiency and vitamin B₁₂ deficiency lead to anaemia and all these deficiencies are common in developing countries especially in pregnancy when metabolic demand is increased.

Homocysteine, a sulfur containing amino acid is an intermediate product of methionine metabolism. It is metabolized through the pathways of transsulfuration and transmethylation. In transmethylation pathway methionine can be regenerated by the transfer of methyl group to homocysteine from N₅-methyltetrahydrofolate, a reaction catalyzed by homocysteine methyltransferase (methionine synthase). The co-enzyme that mediates this transfer of a methyl group is methylecobalamin derived from vitamin B₁₂.
In transsulfuration pathway, homocysteine is an intermediate in the synthesis of cysteine. Hyperhomocysteinemia means increased concentration of homocysteine and it indicates that homocysteine metabolism is compromised causing the export mechanism to remove excess of homocysteine in tissue to blood. Inadequate intake of vitamin B6, B12, or folate may under some cases of elevated homocysteine levels.

Hyperhomocysteinemia is associated with cardiovascular and cerebrovascular diseases as well as recurrent miscarriages, placental abruption, pre-eclampsia, intrauterine growth restriction and perinatal death.

Pre-eclampsia is pregnancy induced hypertension which includes a triad of clinical signs and symptoms, hypertension, proteinuria and pathologic edema. It is demonstrated that elevated levels of maternal plasma homocysteine are present in pre-eclampsia. Elevated maternal plasma homocysteine plays a role in the pathogenesis of vascular disease in the uteroplacental circulation in placental insufficiency. This role may be locally limited to the placenta when only fetal manifestations are present. In severe pre-eclampsia the role may be extended throughout the maternal vascular tree.

The aim of this study was to investigate the possible relationship between plasma homocysteine level, haemoglobin level and 24-hour urinary protein excretion in mildly pre-eclamptic primigravida and severely pre-eclamptic primigravida.

Materials and Methods

Following approval by the Local Ethical Committee and patients informed written consent sixty pre-eclamptic patients were included in the study. This cross-sectional comparative study was carried out at Services Hospital, Lahore. Patients were recruited from those attending the “antenatal clinic” and admitted in the “antenatal ward and labour room” of the Services Hospital, Lahore between July 2003 to January 2004. Out of the sixty pre-eclamptic patients thirty patients were of mild pre-eclampsia and thirty patients were suffering from severe pre-eclampsia. All the patients were primigravida and were analyzed in the third trimester of pregnancy (30-38 weeks of pregnancy). All the patients were taking vitamin supplementation irregularly with no history of essential hypertension, diabetes mellitus and jaundice. An initial interview by a specialist (in Gynaecology Department) determined the subjects suitability for the trial. Inclusion and exclusion criteria were applied at the interview.

A recent blood sample and urine sample were sent to the laboratory for urine analysis, blood sugar level, serum creatinine level and liver function test to exclude renal disease, diabetes mellitus and liver disease. Twenty-four hours urine was collected according to the standard instructions to the subjects. At the end of each 24-hour collection period, the subjects were asked to empty their bladder completely. 24 hour urinary protein estimation was done by Randox Kit Method.

Inclusion Criteria

For mild pre-eclampsia.
1. Primigravida (30-38 weeks of pregnancy)
2. A diastolic blood pressure 90-100mm Hg and a systolic blood pressure at or above 140mm Hg on at least 2 occasions 6 hours apart.
3. Significant proteinuria more than 300 mg/24 hour.

For severe pre-eclampsia.
1. Primigravida (30-38 weeks of pregnancy)
2. A diastolic blood pressure more than 110mm Hg on at least 2 occasions 6 hours apart.
3. Significant proteinuria of 4 gram/24 hour or more with any signs and symptoms of impending eclampsia.

Exclusion Criteria

1. Essential hypertension
2. Renal diseases
3. Diabetes mellitus
4. Jaundice

Each patient was given a full explanation of the study and after taking informed consent a 5ml venous blood was obtained from antecubital vein of patient into vacutainer tubes containing tripotassium EDTA (for preparation of plasma) after an overnight fast. The plasma was removed within an hour and stored at -20°C until analyzed for homocysteine. Plasma total homocysteine level was estimated by a Bio-Rad enzyme linked immunoassay (EIA), microtiter method.

Statistical Analysis

All mean values were expressed as mean ± standard deviation (SD). Values of various groups were compared using analysis of variance [ANOVA]. Students “t” test was used to compare means with two categories of study variables. Statistical analysis was carried out using the SPSS® (Statistical Package for Social Sciences), software version 10 for
Results
The mean homocysteine level in control group was 5.66 ± 0.51 μmol/l, in mild PET it was 9.67 ± 2.83 μmol/l and in severe PET it was 9.50 ± 1.93 μmol/l. The mean 24-hour urinary protein in control group was 100.03 ± 29.91 mg. in mild PET it was 488.97 ± 184.59 mg and in severe PET it was 4430.00 ± 488.59 mg. The mean plasma homocysteine level and mean 24-hour urinary protein in mild PET and severe PET patients were significantly raised \( [p < 0.01] \) when compared with their control group.

The mean haemoglobin level in control group was 10.51 ± 0.90 gm/dl, in mild PET it was 9.88 ± 1.14 gm/dl and in severe PET group it was 9.39 ± 0.74 gm/dl. Haemoglobin level also show a significant \( [p < 0.01] \) decrease in mild PET and severe PET group when compared with their control group (Table-1).

<table>
<thead>
<tr>
<th>Study Group</th>
<th>Homocysteine (μMOL/L) mean ± SD</th>
<th>24 hour urinary protein (MG) mean ± SD</th>
<th>Haemoglobin Levels (GM/DL) mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group ( (n=30) )</td>
<td>5.66 ± 0.51</td>
<td>100.03 ± 29.91</td>
<td>10.51 ± 0.90</td>
</tr>
<tr>
<td>Mild pre-eclampsia ( (n=30) )</td>
<td>9.67 ± 2.83</td>
<td>488.97 ± 184.59</td>
<td>9.88 ± 1.14</td>
</tr>
<tr>
<td>Severe Pre-eclampsia ( (n=30) )</td>
<td>9.50 ± 1.93</td>
<td>4430.00 ± 488.59</td>
<td>9.39 ± 0.74</td>
</tr>
</tbody>
</table>

\(^*p\)-value

\(^*\) One-way ANOVA was used to test differences between control, mild PET and severe PET groups. \( "n" \) stands for number of subjects.

Table-2 shows plasma homo-cysteine level in comparison with mean 24-hour urinary protein and mean haemoglobin levels also show a significant \( [p<0.01] \) relationship with each other.

Table-2: Plasma homocysteine level in comparison with mean 24-hour urinary protein and mean haemoglobin level.

<table>
<thead>
<tr>
<th></th>
<th>Plasma Homocysteine</th>
<th>( ^*p)-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upto 7.9 μmol/l</td>
<td>712.12 ± 1441.41</td>
<td></td>
</tr>
<tr>
<td>More than 7.9 μmol/l</td>
<td>2477.0 ± 2039.29</td>
<td>(&lt; 0.01)</td>
</tr>
<tr>
<td>Haemoglobin (gm/dl) Mean ± SD</td>
<td>10.34 ± 1.05</td>
<td>(&lt; 0.01)</td>
</tr>
</tbody>
</table>

\( ^* \) Student "t" test was used to compare the mean values.

Discussion
The plasma homocysteine level in all the three groups in this study can be compared by a study done by Wang and his workers (2000) in which circulating homocysteine levels in pre-eclampsia were found to be high. The plasma homocysteine level in the control group was 5.9 μmol/l but in the pre-eclamptic patients it was upto 9.4 μmol/l.\(^ {15}\) Similar high levels of about 9.8 ± 3.3 μmol/l were found in a study done by Cotter at al (2001).\(^ {16}\) While in a study done by Lachmeijer et al (2001), it was found that when homocysteine, folate and vitamin B\(_12\) levels were measured no significant differences in levels were seen between the pooled pre-eclampsia and eclampsia subgroup.\(^ {17}\) In normal subjects 24-hour urinary protein excretion according to McMurray upto 150 mg/day. While the mean value of 24 hour urinary protein excretion in patients of severe PET was 4.4 +/- 0.48 gm.\(^ {16}\) Similar high values have been found in a study done by Mark et al (2002) who showed a value of 4.2 +/- 3.6 gm.\(^ {16}\) in this study the mean plasma haemoglobin level show an inverse relationship with plasma homocysteine level. In a study done on Dutch women showed that women with pre-eclampsia with hyperhomocysteinemia had significantly lower folate levels than did women with pre-eclampsia without hyperhomocysticaemia. Vitamin B\(_12\) levels showed the same significant negative trend. In another study to find out plasma folic acid
cutoff value derived from its relationship with homocysteine there is compelling although circumstantial evidence that low folic acid and high homocysteine are associated with atherosclerosis risk.\(^\text{12}\) The aim of this study was to investigate the homocysteine level haemoglobin level and 24-hour urinary protein excretion in mild PET patients and severe PET patients.

### Conclusion

All these studies show that plasma homocysteine level and mean 24-hour urinary protein show a direct relationship with eclampsia because they are increased in eclampsia group as compared to control group. While haemoglobin level show an inverse relationship with eclampsia because haemoglobin level is decreased in eclampsia group as compared to control group. So plasma homocysteine level mean 24-hour urinary protein, haemoglobin level and eclampsia have a significant relationship with each other.

### References

OPEN PREPERITONEAL (POSTERIOR APPROACH) VS DARNING REPAIR (ANTERIOR APPROACH) FOR INGUINAL HERNIORRAPHY

Imran Sadiq, Liaqat Bhatti, Asad Ullah Malik and Mazhar Saeed Choudhary

Background: It is a single blind controlled prospective comparative study in which Open preperitoneal herniorrhaphy (OPH) is compared with conventional anterior approach i.e. Darning repair, regarding early complications (like pain, swelling, infection etc) and recurrence rate.

Patients & Methods: The study was conducted in Surgical Unit-I Services Hospital Lahore over the period of 3 years from Jan 2002 to Dec 2004. A total of 80 patients of Inguinal Hernia were selected randomly for OPH and Darning repair. Only males over the age of 12 years without any co-morbid disease, admitted through OPD were selected for study. The patients were operated on elective list under General or Spinal Anesthesia. Postoperatively patients were kept in ward for at least 24 hrs and they were routinely followed up for 2 years on out-door basis after discharge.

Results: Mean operation time for OPH 30mins (20-60mins) was shorter than Darning repair 45mins (30-80mins). Most patients had mild pain after OPH (60%) as compared to Darning repair (40%). The median time to return to work after OPH (2weeks) was less than after Darning repair (4 weeks). But the incidence of subcutaneous haematoma formation (5%) was same after both types of repairs and there was no recurrence (0%) seen after 2 years, on follow-up.

Conclusion: In conclusion Open-preperitoneal herniorrhaphy is better than conventional Anterior approach in terms of less operative time, post-op pain, early return to work, although there was no recurrence seen after both types of repairs.

Key words: Inguinal Hernia, Preperitoneal Herniorrhaphy, Open-preperitoneal Herniorrhaphy.

Introduction

Hernia is a common surgical problem throughout the world. Various techniques of herniorrhaphy have been used by different Surgeons like Bassini, McVay, Shouldice etc; but all these and many other modifications in procedure showed magnitude of unsuccessful results especially in terms of recurrence. In our country, Darning still remains the most widely used technique though it is disappearing from modern literature. In this study we used Posterior or Preperitoneal approach which is not new; it was first introduced in 1876 by Thomas Annandale of Edinburgh, and he repaired the hernial defect from this approach by using Transversalis Fascia. In 1955 Nyhus again used this technique for Hernia repair. He classified the Hernia as follows and matched the type of Hernia with specific operations, served as a technical guide to hernia repair:

Type-I: Indirect inguinal hernia in which internal ring is of normal size, configuration and structure.

Type-II: Indirect inguinal hernia in which internal ring is enlarged and distorted without impinging on the floor of inguinal canal i.e. Hesselbach triangle is normal.

Type-III: These are of 3 subtypes.

A: All direct hernias
B: Indirect inguinal hernia with a large dilated ring that has expanded medially enroaching on posterior inguinal wall to greater or lesser degree.

C: Femoral hernia.

Type-IV: All recurrent hernias.

The purpose of this study is to compare the results of both types of repairs i.e.; OPH and Darning in terms of post operative pain, early return to work, scrotal/subcutaneous swelling, infection and recurrence.

Patients & Methods

A total of 80 patients with unilateral Inguinal Hernia whether Direct, Indirect or Recurrent were selected for this study. All patients were male having reducible inguinal hernia and no serious medical illness like CCF, CLD or CRF. Patients were divided in two equal groups randomly with 40 patients in each group. 30 patients were operated under G/A and 50 under S/A. Perioperatively three doses of 1st generation cephalosporins were given I/V.

In case of OPH Transverse incision was made about 3 fingers breadth above the inguinal ligament.
External oblique aponeurosis incised in line of its fibers, internal oblique and Transversus split peritoneum reflected medially by blunt dissection till deep ring is visible. In case of Indirect Hernia, sac is pulled out of inguinal canal through deep ring but if sac is densely adherent then peritoneum was opened and contents reduced. Then proximally peritoneum was closed and distal sac left open after cataracting the edges. In case of Type I, Type II and Type IIIB hernia deep ring is narrowed by placing stitches of Prolene 2/0 medial or lateral to cord, while in case of Type IIIA & Type IV hernia the subcutaneous repair is done by Prolene 2/0 stitches, we did not use mesh for reinforcement of repair. After the repair abdomen was closed in layers. In case of darning repair, inguinal canal was opened through groin incision, cord lifted and sac dissected out. After Herniotomy posterior wall of inguinal canal was strengthened by figure of eight Prolene 1/0 suture. External Oblique aponeurosis was closed anterior to cord with absorbable suture and then rest of the wound closed.

Postoperatively patients were kept in ward for at least 24 hrs. Analgesia was given on patient's demand in order to estimate the severity of pain. After discharge patients were followed-up either in OPD or contacted at their places as one week, 2 weeks, one month, 4 months, 6 months, 1 year and then 2 years after surgery.

Table 1: Type of repair.

<table>
<thead>
<tr>
<th>Type of Repairs</th>
<th>Preperitoneal</th>
<th>Darning</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hernia Direct</td>
<td>02</td>
<td>04</td>
<td>06</td>
</tr>
<tr>
<td>Type IIIA</td>
<td>12</td>
<td>10</td>
<td>22</td>
</tr>
<tr>
<td>Bubonocele</td>
<td>12</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>Funcular</td>
<td>12</td>
<td>08</td>
<td>20</td>
</tr>
<tr>
<td>Complete</td>
<td>02</td>
<td>02</td>
<td>04</td>
</tr>
<tr>
<td>Total Recurrent</td>
<td>40</td>
<td>40</td>
<td>80</td>
</tr>
</tbody>
</table>

Results

A total of 80 patients were included in this study over the period of 3 years. All patients were admitted through OPD having reducible inguinal hernia. All patients were male with mean age of 28 years (range 20-60 yrs). 40 patients were operated by OPH and 40 underwent Darning repair. Among 40 patients of OPH, 6 patients were having Type-I, 18 pts Type-II, 2 pts had Type-III A, 12 pts had Type-B and 2 pts had Type-IV hernia, while among 40 patients of Darning repair 10 pts had Type-I, 16 pts had Type-II, 4 pts had Type-III A, 8 pts had Type-II B, 2 pts had Type-IV hernia. Mean operation time in case of OPH was 30 mins while in case of Darning repair was 45 mins. So the mean operation time for OPH was shorter than Darning repair.

As far as post operative pain is concerned during initial 24 hours, patient who were operated by OPH only 6 patients (15%) had severe pain, while 10 patients (25%) had moderate pain and 24 patients (60%) had mild pain. Among patients of darning repair only 16 patients (40%) had mild pain, 14 patients (35%) had moderate and 10 patients (25%) severe pain. Median time to return to work after OPH was 2 weeks and after darning repair was 4 weeks. So there was early return to work after OPH.

There were two cases of subcutaneous haematoma formation after OPH and two cases after darning repair. So the incidence of haematoma formation (5%) was same after both types of repairs. But no scrotal swelling, no wound infection, no hydrocele and testicular neurosis was seen after both types of repairs. On two years of follow-up no recurrence was observed after both types of repairs.

Discussion

Inguinal hernia occurs whenever there is disturbance in anatomy or physiology or both of inguinal canal e.g. a direct hernia occurs whenever there is weakness of Fascia Transversalis or failure of shutter mechanism due to denervation of conjoined muscle, as might occur in case of muscle cutting incision for Appendicectomy. Similarly indirect hernia occurs either due to persistent processes vaginalis or due to failure of sphincter mechanism, leading to gradual widening of opening of deep ring. So keeping in view the pathophysiology of inguinal hernia the best method of hernia repair is that in which we have direct access to the defect site with minimal anatomical disturbance. In conventional methods of herniotomy inguinal canal is opened and hernial defect is approached anteriorly, which is not only having limited access but also disturbs the normal anatomy and physiology of inguinal canal by lifting up the cord. While in case of pre-peritoneal herniotomy there is direct access to the hernial defect with minimal anatomical disturbance. That is the reason pre-peritoneal approach whether open or Laparoscopic has been used by many Surgeons. Some surgeons used this approach especially for recurrent inguinal hernia that provides the virgin area, avoiding dissection of the scarred cord resulting in a low rate of recurrence and effectively eliminates testicular complications. But most of the surgeons
either did not use mesh or used mesh or favoured the primary closure without mesh as in this study. Pre-peritoneal mesh hernioplasty has its own complications like ileus, intra-abdominal adhesions, pulmonary embolus in addition to wound infection, mesh rejection and haematoma formation.91 Due to these reasons mesh was not used in this study and we have 0% recurrence after 2 years of follow-up. According to literature the recurrence rate is high in case of recurrent hernias but that might be due to technical shortcomings.17

OPP is better than traditional repairs not only in terms of recurrence but also there is less post-operative pain and rapid return to ordinary daily activities.53 Mean operation time 30mins was also shorter than other methods of herniorrhaphy.55

In conclusion open pre-peritoneal approach is better than conventional anterior approach for inguinal hernias, especially for recurrence hernias in terms of less post operative pain, early return to work and less chances of recurrence. Moreover it is safe and easy to perform in short time.

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**References**


Acute Appendicitis in Pregnancy

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Background: Acute appendicitis is a common cause of abdominal pain in pregnancy. Present study aims to determine the presentation and diagnosis of acute appendicitis in pregnancy.

Methods: It was descriptive study carried on 18 pregnant patients who underwent appendicectomy.

Results: In this series 18 pregnant patients had appendicectomy, 17 had acute appendicitis, and 1 had normal appendix. Abdominal pain and vomiting were main presenting symptoms. Tenderness in right iliac fossa was main finding on clinical examination. 2 patients had perforated appendix for which lower midline laparotomy was performed. There was no fetal or maternal loss. Wound infection was major complication seen in 2 patients only.

Conclusion: The diagnosis of acute appendicitis rests on clinical acumen, and prompt surgical intervention is the key to good outcome.

Keywords: Acute appendicitis, Pregnancy,

Introduction
Acute appendicitis is the commonest non-obstetric indication of laparotomy in pregnancy. Abdominal pain is common symptom in pregnancy. Its etiology is diverse and often poses a problem. Acute appendicitis should always be considered as a possible cause. A thorough history and clinical examination is important in making the correct diagnosis of acute appendicitis. Delay in diagnosis is associated with increased fetal mortality.

Abdominal pain accompanied by nausea and vomiting are most common symptoms of acute appendicitis. Abdominal tenderness and rebound tenderness are most reliable physical signs. In investigations, leukocytosis with Total Leukocyte count > 15000/mm3 and granulocytosis > 80 percent and prolonged symptomatic duration indicate appendical perforation might have occurred. Abdominal and Pelvic Ultrasound is a useful diagnostic technique. Graded compression sonography has similar accuracy in non-pregnant women and in first and second trimester of pregnancy for diagnosis of acute appendicitis.

Purpose:
1. To evaluate the presentation of appendicitis in pregnant women and to determine whether there is a specific pattern of presentation in pregnancy that would aid in its diagnosis.
2. To offer guidelines for the optimal management of patient suspected of having acute appendicitis in pregnancy.
3. To formulate a strategy for greater diagnostic and management efficacy.

Patients and Methods
This descriptive study was conducted in Services Hospital, Lahore. Patients presenting in Surgical and Obstetric Emergency over a period of two years were included.

The gestational age was defined as up to and including 12th week of pregnancy- first trimester, 13th to 28th week of pregnancy- second trimester, 29th week of pregnancy onwards- third trimester.

All patients underwent thorough history taking, detailed clinical examination, biochemical investigations including Complete Blood Examination and Complete Urine Examination. Obstetric and Abdominopelvic Ultrasound was performed in all patients.

Following suspected diagnosis, patients were operated. Post operative progress was recorded including Obstetric Ultrasound for integrity of fetus.

Inclusion Criteria
All pregnant patients with clinical diagnosis of acute appendicitis or peritonitis following perforated appendix were included in the study. Final diagnosis was made on operative findings and histopathology of the appendix.
Exclusion Criteria
Pregnant patients undergoing laparotomy for peritonitis and found to have some other cause like typhoid perforation or acute pancreatitis were excluded from the study. Similarly, pregnant patients with pain right iliac fossa which settled on conservative management were also excluded from the study.

Results
A total of 18 patients qualified for the study. Age of patients was between 19 to 35 years with mean age of 25 years. 8 patients (44.44%) were in first trimester of pregnancy while 10 patients (55.55%) were in second trimester. Pain was presenting symptom in all patients. Duration of pain varied between 1 to 5 days. 14 (77.77%) patients had Anorexia, 12 (66.66%) had vomiting, 4 (22.22%) had symptoms of dysuria and frequency of micturition and 2 (22.22%) presented with fever.
In clinical examination tenderness and rebound tenderness in right iliac fossa was observed in all patients. In investigations, Total Leucocyte Count ranged between 9,200 to 12,900 and cmm. Abdominal ultrasound showed appendix mass in 2 (22.22%) patients and Inflamed appendix in two patients.

Table 1: Summary of Symptoms.

<table>
<thead>
<tr>
<th>Sr. #</th>
<th>Symptoms</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pain Abdomen</td>
<td>100</td>
</tr>
<tr>
<td>2.</td>
<td>Anorexia</td>
<td>77.77</td>
</tr>
<tr>
<td>3.</td>
<td>Vomiting</td>
<td>66.66</td>
</tr>
<tr>
<td>4.</td>
<td>Urinary Complaints</td>
<td>22.22</td>
</tr>
<tr>
<td>5.</td>
<td>Fever</td>
<td>22.22</td>
</tr>
</tbody>
</table>

General Anaesthesia was used in 16 patients while spinal anaesthesia was used in 2 patients. 14 patients were explored through Grid Iron incision and 2 through Transverse incision in Right Iliac Fossa while 2 patients underwent laparotomy through lower midline incision. In operative findings appendix was found to be inflamed in all patients, exudates in RIF was seen in 8 patients. Drain was placed in 2 patients following appendicectomy. Post operatively 2 patients had fever, 6 had vomiting and 2 had wound infection which was managed by opening skin stiches, wound irrigation and delayed primary closure. Hospital stay ranged between 2 to 5 days with mean of 2.7 days. Histopathology showed acutely inflamed appendix in 17 cases and normal appendix in 1 case. In our study no case of abortion or preterm labor was noticed.

Discussion
Acute appendicitis complicating pregnancy is rare but it is most common indication of laparotomy in pregnancy. Acute appendicitis occurs more commonly in second and third decade of life which correlates with our study in which mean age was 25 years. In our study frequency of appendicitis was almost equal for first and second trimester while no case was seen in third trimester.
Diagnosis of appendicitis is difficult in pregnancy and becomes increasingly difficult as pregnancy progresses. The triad of abdominal pain, nausea and vomiting are often considered unusual for gravid state. Guarding and rebound tenderness are most valuable clinical signs for diagnosis of appendicitis although they are less constant because of relaxation of abdominal muscles during pregnancy. Ultrasonography using graded compression technique has yielded more accurate diagnosis of appendicitis in pregnancy. In our study rate of negative appendicectomy was 5.55% which is justified as fetal and maternal mortality and morbidity can be reduced by correct diagnosis of appendicitis. Once diagnosed, pregnancy should not be taken as reason to delay the operation. During surgery tilting patient to 30 degrees left lateral position can facilitate the exposure and optimize uterine blood flow.
Early diagnosis and prompt operative intervention, improved surgical techniques, better anaesthesia, prompt antibiotic administration and better fluid balance are the factors responsible for the reduction of maternal mortality and likewise decrease in fetal mortality.

Conclusion
Acute appendicitis must always be considered in differential diagnosis of abdominal pain in pregnancy and in the presence of reasonable suspicion, laparotomy is certainly warranted. Good clinical history, careful examination aided by raised white cell count and Abdominal and Pelvic Ultrasound remain key for accurate diagnosis of acute appendicitis in pregnancy.

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REFERENCES

Answer Picture Quiz
1. The most likely diagnosis of this lesion is breast carcinoma. Typical raised edges and uneven surface is highly suggestive. The only other possibility would be rupture breast abscess which appears unlikely on the basis of absence of fever and the appearance of lesion.
2. A definite diagnosis can only be established by biopsy. A punch or incisional biopsy may be adequate. Alternatively the excision of the entire lesion or mastectomy can be performed.
3. The most likely cause of massive polyuria associated with low osmolality urine is diabetes insipidus. Bone metastasis including base of skull is an important clue to the possibility of hypothalamus infiltration with malignant tissue. Mostly DI is idiopathic but occasionally may be due to trauma, inflammatory, infiltrative, vascular or neoplastic disorders. The tumors which commonly cause such a problem include craniopharyngioma, pinealoma, germinoma, pituitary macroadenoma or any metastatic tumor especially that of breast. When there is reduction in arginine vasopressin of >80%, the classical syndrome of diabetes insipidus develop. Water deprivation test fails to correct the urinary abnormality whereas vasopressin administration will promptly reduce urinary output increase its osmolality.
A 12 years boy was presented in eye out patient department in Services Hospital affiliated to Services Institute of Medical Sciences Lahore from Tibat on 10th May, 2007 with presenting complain of decrease vision of left eye and leukocoria. On examination his visual acuity of left eye was counting finger at half feet and on Slitlamp examination there was seeding in anterior chamber and on indirect Ophthalmoscopy examination there was a huge whitish mass which completely filled the Vitreous cavity. Right eye was normal with visual acuity of 6/6.

On USG there was a mass in Vitreous cavity with calcification. On 15th May, 2007 his MRI was done which shows the following findings. Multecho multiplanar image through the brain + orbits were performed. Post-contrast images were also obtained. There is evidence of T1 and T2W isointense mass in left eyeball along with medial wall showing heterogeneous contrast enhancement on post-gadolinium images. Recti muscles of left eye end retrobulbar space are normal. Right eyeball and orbital contents are normal. A small left temporal arachnoid cyst is seen. No evidence of intra/extra axial mass or haemorrhage. No evidence of recent or remote infarct. There are no posterior fossa abnormalities. Ventricular system is normal. Pituitary gland appears normal. 7th & 8th nerve complexes are normal & symmetrical bilaterally.

IMPRESSION
MR features of heterogeneously enhancing mass in left eyeball as described suggest Retinoblastoma. After MRI left Enucleation was done and the specimen was sent for histopathology which shows the following features.

HISTOPATHOLOGY REPORT
Specimen: Left eye
Gross: Eye measuring 2.5x2x2cm. On opening then is a grey white tumor measuring 105cm in length.

Microscopy: Sections from the grey white tumor in this left eye reveal a malignant cellular neoplasm composed of sheets of pleomorphic malignant round to oval cells containing hyperchromatic nuclei and scanty cytoplasm. Focal areas of necrosis are seen. Section from the nerve resection margin is free from tumor infiltration.

Diagnosis: Left eye - Retinoblastoma. Optic nerve resection margin is free of tumor infiltration.
GUIDELINES

THE DIAGNOSIS OF OSTEOPOROSIS

Osteoporosis is a condition of low bone density that can progress silently over a long period of time. If diagnosed early, the fractures associated with the disease can often be prevented. Unfortunately, osteoporosis frequently remains undiagnosed until a fracture occurs.

An examination to diagnose osteoporosis can involve several steps that predict one’s chances of future fracture, diagnose osteoporosis, or both. It might include:

- An initial physical exam
- Various x-rays that detect skeletal problems
- Laboratory tests that reveal important information about the metabolic process of bone breakdown and formation
- A bone density test to detect low bone density
- Before performing any tests, record information about individual’s medical history and lifestyle:
  - Risk factors, including information about any past fractures
  - Family history of disease, including osteoporosis
  - Medication history (steroids, thyroxin or heparin etc)
  - General intake of calcium and vitamin D
  - Exercise pattern
  - Menstrual history (for women)

Risk Factors for Osteoporotic Fracture Include:

- Personal history of fracture as an adult
- History of fracture in a first-degree relative
- Caucasian or Asian race followed by African Americans and Hispanic Americans
- Advanced age
- Female gender
- Dementia
- Poor health, frailty, or both
- Current cigarette smoking
- Low body weight (not obesity!)
- Anorexia nervosa
- Estrogen deficiency (past menopause, menopause before age 45, bilateral oophorectomy, prolonged amenorrhea prior to menopause
- Low testosterone levels in men
- Use of certain medications such as corticosteroids and anticonvulsants
- Lifelong low calcium intake
- Excessive alcohol intake
- Impaired eyesight despite adequate correction
- Recurrent falls
- Inadequate physical activity

Radiological Tests

If your patient has back pain, an x-ray of spine may be required to rule out a fracture. However, X-ray is not very sensitive to detect osteoporosis since an x-ray can detect bone loss only after 30 percent of the skeleton has been depleted, the presence of milder degree of osteoporosis may be missed.

Bone Mineral Density Tests

A bone mineral density (BMD) test is the best way to determine the bone health. BMD tests can identify osteoporosis, determine one’s risk for fractures (broken bones), and measure response to reatment. The most widely recognized bone mineral density test is called a dual energy X-ray absorptiometry or DEXA test requiring much less exposure to radiation than an x-ray. Bone density is typically measured at femur neck and lumbar vertebral bodies.

BMD tests is expressed as T-score, a number value that results from comparing bone density to optimal bone density of population at large or Z score when bone density is compared to women of same age. When a T-score appears as a negative number such as -1, -2 or -2.5, it indicates low bone mass. The more negative the number, the greater the risk of fracture. Most authors believe that T score up to -1 is normal, up to -2 is called osteopenia and value less than -3 is osteoporosis. Although no bone density test is 100 percent accurate, this type of test is the single most important predictor of whether a person will fracture in the future.

Bone Scans

An isotope is needed to rule out cancer, bone lesions, inflammation, or new fractures. In a bone scan, the person being tested is injected with a radioactive isotope that allows a scanner to identify differences in the condition of various areas of bone tissue.

Laboratory Tests

A number of laboratory tests may be performed on blood and urine samples. The results of these tests can help your doctor identify conditions that may be contributing to your bone loss.

The most common blood tests evaluate:
- Blood calcium levels
- Blood vitamin D levels
- Thyroid function
- Parathyroid hormone levels
- Estradiol levels to measure estrogen (in women)
- Follicle stimulating hormone (FSH) test to establish menopause status
- Testosterone levels (in men)

- Osteocalcin levels to measure bone formation
  The most common urine tests are:
- 24-hour urine collection to measure calcium metabolism
- tests to measure the rate of bone resorption
  The basic approach is to determine BMD in high risk patients. After ruling out other metabolic condition a life-long treatment programme is begun.