

Original Article

THE EFFECTS OF A MODIFIED SURGICAL TECHNIQUE ON THE INCIDENCE OF VAULT HAEMATOMAS

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Objective: To evaluate the effects of a modified incision and closure technique on the incidence of vault haematoma and post operative morbidity after vaginal hysterectomy..

Methods: 100 patients aged between 40 to 70 years having utero vaginal prolapse undergoing vaginal hysterectomy were included in the study. Vaginal hysterectomy was performed with a modified Incision. Patients were observed for fever, pain and vaginal bleeding.

Pelvic ultrasound was carried out for any pelvic collection or Haematomas. Patients were followed for one month. Patients with complaints of lower abdominal pain, vaginal spotting, bleeding or fever were re admitted and evaluated.

Results: Out of 100 patients, 2% patients developed vault haematomas, 11% developed pain, 5% developed fever. 7% patients stayed at hospital For 56 days due to complications .Haematoma was confirmed by ultrasound in 2% cases and those were readmitted .Conservative management was done .No patient required surgical evacuation.

Conclusion: Adoption of the modified technique resulted in a significant fall In postoperative morbidity due to haematoma formation.

Key words: Modified technique, Vault haematoma and Morbidity.

Introduction

The most common operation performed in gynaecology is hysterectomy. Currently vaginal hysterectomy is becoming more popular as it has its own advantages like shorter duration of surgery, shorter hospital stay and early mobilisation. Vault haematoma is a recognized complication of vaginal hysterectomy that may be associated with significant post operative morbidity. After vaginal hysterectomy, about 10% of women developed a small collection of blood at the vaginal vault. This usually drains spontaneously after 7-10 days .Occasionally a large haematoma may require surgical drainage. Majority of haematomas can be managed conservatively. The incidence of vault haematoma is significantly higher after vaginal hysterectomy than after abdominal hysterectomy. After hysterectomy, there may be some collection of blood forming a haematoma at the vault. This haematoma cannot be detected by clinical examination in early post operative days. It leads to morbidity especially when infected.¹ Incidence of vault haematoma after vaginal hysterectomy is variably reported from 25% to as much as 98%.^{2,3} This can cause the vaginal bleeding to last longer than expected and this may also be rather smelly, as the blood drains.⁴ Large haematomas are invariably associated with significant febrile morbidity.⁵ There are traditional

techniques for incision and closure of the vault .The peritoneum and vaginal epithelium are incised and sutured separately leaving a potential space above the vaginal vault where a haematoma can be formed later on.⁶ The initial blunt dissection of peritoneum from vaginal wall may cause bleeding on the peritoneal side of the vaginal skin denuded of the peritoneum.

A simple technique of mass closure which obliterates the space can be practiced. This method has advantages in terms of haemostasis, risk of vault haematomas and postoperative vaginal cuff infection.⁶ Following refinement in surgical technique, a significant reduction in the incidence of clinically significant vaginal vault haematomas from 15.7% to 1.7 was observed.³ The objective of this study was to evaluate the effects of a modified incision and closure technique of the vaginal vault on the incidence of clinically significant vault haematoma and post operative morbidity following vaginal hysterectomy. Adoption of the described surgical technique is recommended to minimize the risk of clinically significant vaginal vault haematomas after vaginal hysterectomy.

Materials and Methods

This study was conducted in Lady Atchison Hospital, Lahore from November 2011 to December 2012. 100 patients aged 40 to 70 years undergoing vaginal hysterectomy and repair were included . 78 patients

were menopausal and 22 patients were pre menopausal. All patients had uterovaginal prolapse for which vaginal hysterectomy and repair was done with a modified incision. 20 patients were diabetic and 15 were on antihypertensive drugs. All patients were afebrile before surgery. Full blood count and urine analysis were carried out. Patients were hospitalized for 3 days after surgery and were observed for vaginal spotting, bleeding and fever. Full blood count and urine analysis were repeated on 3rd post operative day. Antibiotics and analgesia were administered in routine. Patients who developed fever, lower abdominal pain, vaginal spotting or bleeding were kept in hospital for longer time. Pelvic ultrasound was carried out for evidence of any pelvic collection or haematoma. Patients were followed for one month and who complained of lower abdominal pain, vaginal spotting, bleeding or fever were re admitted and evaluated. Statistical analysis was performed regarding incidence and postoperative febrile morbidity associated with vaginal vault haematomas and treatment.

Surgical Technique

The vaginal wall is incised posteriorly at the level of reflection of the peritoneum as a single layer, without separating the peritoneum from vaginal wall. This avoids creating a potential space between vaginal wall and the peritoneum. During suturing the peritoneum remains attached to the vaginal skin and is included in the suturing, incorporating uterosacral ligaments. This technique, allows direct access to the pouch of Douglas, avoids haematoma formation and provides at least a partial support.

Results

Out of 100 patients, 2% patients developed vault haematoma, 11% developed pain, 5% developed fever. 7% patients stayed at hospital for 5-6 days due to complications. Haematomas was confirmed by ultrasound in 2% cases and those cases were readmitted. conservative management was done. no patient required surgical evacuation.

Table-1: Age group.

Age	No of Positive Case	Percentage
40-50 Years (pre menopausal)	22	22%
50-70 Years (Menopausal)	78	78%

Discussion

The most common operation performed in gynaecology is hysterectomy. Vaginal Hysterectomy

Table-2: Post operative complications.

Site	No of Positive Case	Percentage
No of Haematomas	02	2%
Pain	11	11%
Fever	05	5%
Vaginal spotting. (7th day)	03	3%
Smelly vaginal discharge 12-20th day	02	2%

Table-3: Hospital stay.

Age	No of Cases	Percentage
3-4 Days	93	93%
5-6 days	07	7%

Table-4: Investigations.

?	No of ?	Percentage
Haemoglobin (10-11gm%)	05	05%
Leukocyte Count 13 ³	05	05%
Urine Infection	02	02%

Table-5: Abdomino pelvic ultrasound.

?	No of ?	Percentage
Ultrasound	05	05%
Haematoma Confirmation	02	02%
No pelvic collection	03	03%

Table-6: Management.

?	No of ?	Percentage
Out Patient Treatment	03	03%
Admission	02	02%
Conservative treatment	05	05%
Surgical evacuation	0	0%

Table-7: Treatment.

Age	No of Positive Case	Percentage
Antibiotics / Analgesics	05	05%
Blood Transfusion	0	0%

is Being preferred to abdominal hysterectomy, as it is increasingly done for non prolapsed uterus as well. The vaginal route is associated with lower morbidity, shorter duration of surgery, quicker recovery and early discharge from hospital. Early discharge

following uncomplicated hysterectomy in selected patients appear to be a safe procedure, appreciated by majority of the women.⁷ As the incidence of vaginal hysterectomy is rising, it is therefore important to ensure, the common complications are either eliminated or minimized. Vault haematoma following hysterectomy is relatively common, affecting approximately 20-30% of the patients. Frequent presentation include lower abdominal pain, low grade temperature or vaginal discharge.⁸ Vault haematoma is the most common complication of vaginal hysterectomy. Patients with pelvic organ prolapse have easily accessible pedicles and are thus at reduced risk of vault haematoma than patients without pelvic organ prolapse.

Greater attention to haemostasis is required at vaginal hysterectomy as the limited access available during the procedure. Haematomas form as a result of residual bleeding at the end of surgery. Bleeders are commonly found laterally more cephalic to the original incision. These areas should be more carefully checked.⁹ The most common site of bleeding was the vaginal vault.¹⁰

In our study, the incidence of vault haematoma was 2%. Following refinement in surgical technique, a significant reduction in the incidence of clinically significant vaginal vault haematomas from 15.7% to 1.7% was observed.³ The incidence of vault haematoma was 10.53%.¹ Incidence of vault haematomas was 19.4%. 70% patients had small haematomas, 30% had large haematomas. 50% patients with large haematomas had febrile morbidity as compared to 35% with small sized haematomas.¹¹

Large haematomas are invariably associated with significant febrile morbidity.¹² In our study, 78% patients were in menopausal age (50-70 years). Haematomas are more common in younger patients especially when vaginal hysterectomy is performed due to non prolapsed causes.

In our study, 11% patients had pelvic pain, 5% patients developed fever in post operative period. According to Thomson et al² the incidence was 25%, febrile morbidity and post operative pain were

noted in 31% and 15% patients respectively. Post operative febrile morbidity was 16 times more common in subjects with haematomas compared to those without haematomas.¹³

In the study, (5%) patients developed fever, (3%) experienced vaginal spotting and smelly vaginal discharge. Incidence of vault haematoma was 4%, vaginal discharge was noted in 6% cases.¹⁴

After vaginal hysterectomy, the overall complication rate was 11.2%.¹⁵ Pelvic fluid collections are common after hysterectomy. Women who develop post hysterectomy fluid collections appear to be at increased risk for the development of febrile morbidity and cuff cellulitis.¹⁶

In the study, 93 (93%) patients stayed at hospital for 3 to 4 days. 7 (7%) patients remained admitted for 5 to 7 days. According to Thomson et al, length of hospital stay was 3 to 4 days. Patients who needed intervention, had prolonged hospital stay. (10-13 days).¹

All patients with fever, pain and spotting were managed conservatively with antibiotics and analgesia. 3 (3%) patients were treated as out patient, (2%) with confirmed haematoma were admitted. Surgical intervention or blood transfusion was not required in any cases.

Conclusion

In conclusion, adoption of the modified technique resulted in a significant fall in post operative morbidity due to haematoma formation. The modification in surgical technique of incision and closure of the vaginal vault, is recommended to minimize intra and postoperative complications.¹³

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