ORIGINAL ARTICLE OPEN ACCESS

Presentation and Management of Vaginal Vault Hematoma after Hysterectomy

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ABSTRACT

Objective	*To detect and manage vaginal vault hematoma following abdominal and vaginal hysterectomy.*
Study design	*Descriptive case series.*
Place & Duration of study	*Department of Obstetrics & Gynaecology Unit-1, Bahawal Victoria Hospital/Quaid-e-Azam Medical College Bahawalpur, From January 2009 to December 2013.*
Methodology	*During the period 921 women underwent hysterectomy, 276 through vaginal and 645 through abdominal approach. Patients were scanned on Ist and 3rd postoperative day. A transabdominal scan was done in patients who underwent vaginal hysterectomy and a transvaginal scan was done for those who had undergone abdominal hysterectomy. The findings were used to relate the postoperative morbidity in cases of vault hematoma.*
Results	*Of the total 921 hysterectomies during the study period overall frequency of vault hematoma was 5.32% (n=49). It was 2.89% (n=8/276) in with vaginal hysterectomy and 6.35% (n=41/645) in abdominal hysterectomy. The most common presenting symptom in postoperative period was unexplained fever (n=23/82 - 28%) in abdominal hysterectomies. In vaginal hysterectomies most of the patients were diagnosed by presence of collection on rescan (n=8/21 - 38%). Majority of patients in vaginal hysterectomy group were managed conservatively and only 25% underwent colpotomy. In abdominal hysterectomies hematomas were mostly (78%) drained by colpotomy.*
Conclusion	*Ultrasonography to detect postoperative hematomas on 3rd postoperative day following hysterectomy identified high risk group of patients who need further management or follow up before discharge.*

Key words *Vault hematoma, Hysterectomy, Colpotomy.*

INTRODUCTION:

The most common operation performed in the field of gynecology is hysterectomy. For some years it has been recognized that vaginal hysterectomy has advantages over abdominal hysterectomy. The incidence of vaginal hysterectomy is rising as it is increasingly done for non-prolapsed uterus. Vaginal hysterectomy now a days is preferred over abdominal hysterectomy because of shorter hospital stay and early ambulation.

A variety of complications can occur with hysterectomy including bladder injury, ureteral injury, vaginal vault prolapse etc.[1] As surgical equipment and techniques continue to improve, hysterectomies are increasingly performed with laparoscopy and related complications have decreased. Several authors reported different surgical techniques for abdominal and vaginal hysterectomy including laparoscopic approach without substantial

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differences.[2] Robotic surgery is also gaining popularity for hysterectomy.[3] The outcome of robotic surgery is still debated and both minimal and significant complications have been reported.[4]

Secondary hemorrhage after hysterectomy is a rare but life-threatening complication that may require prompt medical and surgical intervention. Although the overall incidence of secondary hemorrhage is low, gynecologists do come across secondary hemorrhage of varying degrees of severity.[5] Overall incidence of hemorrhage after hysterectomy is reported from 0.2% to 2%. This include both reactionary and secondary hemorrhage.[6]

Collection of blood in the region of vaginal vault after hysterectomy is a common complication. This subtle hematoma cannot be detected by clinical examination in early postoperative days and can cause morbidity especially when infected. It is mostly associated with increased postoperative febrile illness. In the present study an attempt was made to detect and manage the vaginal vault hematoma by ultrasound scan on day 1 and day 3 after operation.

METHODOLOGY:

This descriptive study was conducted in the Department of Obstetrics & Gynaecology Unit-1, Bahawal Victoria Hospital/Quaid-e-Azam Medical College Bahawalpur. All patients who underwent hysterectomy from year 2009 to 2013 were approached. Out of this cohort 753 women who were willing to undergo postoperative sonography were included in this study. Patients with malignancy, previous surgery for proplase and those who had concomitant surgical procedures like abdominal wall repair, were excluded.

During surgery 20ml of 1:20000 lignocaine with adrenaline was used for vaginal hysterectomies in all cases of prolapse except in those with hypertension. Routine vaginal packing was done in cases of vaginal hysterectomy. During abdominal hysterectomy pelvic peritoneum was not closed while it was sutured in vaginal hysterectomy. No drain was kept in abdominal hysterectomy patients. The vaginal vault was closed with absorbable catgut no.1 interrupted sutures in abdominal hysterectomy. All patients received cefotaxime 1gm intravenously 12 hourly and metronidazole 500mg 8hourly for 3 days.

Ultrasonography was done on 1st and 3rd post operative days. Transabdominal scan was done for patients of vaginal hysterectomy and transvaginal scan for patients of abdominal hysterectomy. Hematoma was diagnosed as a non echogenic complex mass measuring 3cm or more in two largest diameters.

Postoperative febrile morbidity was defined as fever more than or equal to 100 ^{0} F. Patients with discomfort, mild abdominal distention or diarrhea and persistent fever were re-scanned after three days. If the collection had increased, it was drained by opening the vault sutures or making a hole in vault bluntly with finger without anesthesia under aseptic technique. Patients were discharged when they improved clinically. Descriptive statistics were used to present data.

RESULTS:

Hysterectomy was the most common operation performed in the patients admitted with gynecological problems. There were total of 8021 admissions for gynecologic diseases of which hysterectomy was performed in 921 patients, 276 (29.9 %) vaginal and 645 (70 %) abdominal. Most common indication for abdominal hysterectomy was dysfunctional uterine bleeding and prolapse for vaginal hysterectomy. Details are given in table I. Overall frequency of vault hematoma in present series was

Table I: Indications for Hysterectomy (n=921)

Indication	Vaginal Hysterectomy (n=276)		Abdominal Hysterectomy (n=645)	
	No. of cases (n)	Percentage (%)	No. of cases (n)	No. of cases (n)
Fibroid uterus	6	2.1%	103	15.9%
Pelvic inflammatory disease	22	7.9%	233	36.2%
Dysfunctional uterine bleeding	84	30.6%	269	41.7%
Prolapse	164	59.4%	12	1.8%
Ovarian tumors	-	-	24	3.8%
Mental retardation	-	-	4	0.6%

Table II: Morbidity		
Morbidity	**Vaginal Hysterectomy (n)**	**Abdominal Hysterectomy (n)**
Unexplained Fever	7	23
Collection on rescan	8	18
Colpotomy	2	32
Subacute intestinal obstruction	Nil	1
Vaginal bleeding	4	8

Table III: Detection of Vaginal Vault Hematoma Following Hysterectomy		
Hematoma (>3cm)	**Vaginal Hysterectomy (n)**	**Abdominal Hysterectomy (n)**
1st postoperative day	5	9
3rd postoperaive day	3	32
Total	8 (2.89%)	41 (6.35%)

5.32% (49/921). It was 2.89% (8/276) in vaginal hysterectomy patients 6.35% (41/645) in abdominal hysterectomy group.

The most common presenting symptom in postoperative period was unexplained fever in 23 (28%) patients in whom abdominal hysterectomy was performed (table II). Most of the patients were diagnosed by presence of collection on rescan (table III). Eight patients in vaginal hysterectomy group developed vault hematoma and colpotomy was performed in two (25%) patients only. Others were managed conservatively. In abdominal hysterectomy group 32 (78%) patients needed colpotomy for drainage of hematoma.

DISCUSSION:

Post hysterectomy hematomas are responsible for serous morbidity especially if they are large and infected. Rarely there can be collection of lymph, serous fluid or necrotic debris at different sites after hysterectomy. Our consideration was only about collection of blood i.e hematoma formation. Mostly the collection occurred in the dependent areas. Hematomas can be formed in pouch of Douglas, subvesical space, ischio-rectal fossa and broad ligament. In present series only hematoma formation at vault was investigated.

It is difficult to diagnose hematoma by routine clinical examination only. Vault hematoma can cause pain, fever, vaginal discharge, diarrhea and even mild abdominal distention. There can be development of paralytic ileus with large hematomas. However various studies found no relation between the presence of collection and postoperative morbidity.[7] On the other hand Geeta D et al found 12% frequency of postoperative complications after vaginal hysterectomy.[8] Ultrasound is a good diagnostic tool which is non-invasive and easy to use.

We found ultrasound useful for the detection of vault hematoma at 3rd postoperative day. Puri Mangal et al suggested ultrasound in a select group of patients in whom vault hematoma is suspected.[9] In our study only 25% patients underwent colpotomy for drainage of hematoma as compared to routine vault drainage by Spencer C.[10]

We screened high risk group patients in this series after hysterectomy by ultrasound for the detection of vault hematoma for further management. Moez K et al noted significant risk of febrile morbidity after vaginal hysterectomy while in our setup it was more in patients with abdominal hysterectomy. [11] Overall frequency of vault hematoma in our study was 2.89% which is comparable with the postoperative complications in vaginal and abdominal hysterectomies in a study by Slavcho T et al.[12] The reported frequency of vault hematoma in a study of Shreejana H et al was 3% for vaginal and 55% for total abdominal hysterectymies.[13]

In our study the number of postoperative complications was higher in abdominal hysterectomies (6.35%) which is similar to that of Virupaksha A et al study.[14] The authors in the cited reference compared their results with total laparoscopic hysterectomy carried out by Pada S et al.[15] Postoperative hematoma is a serious complication after hysterectomy but it can be easily

diagnosed with ultrasound can be managed conservatively in majority of the cases.

CONCLUSIONS:

Small vaginal vault hematomas can be diagnosed in postoperative period with the help of ultrasound and remain asymptomatic. Most of these resolve spontaneously. Patients with clinical symptoms like fever, pain and diarrhea should be rescanned on 3rd postoperative day to identify a high risk group who need further management.

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Author's Contribution:
Sohail Mahmood Chaudhry: Concept generation, data collection, data analysis and report writing.
Shahnaz Anwer: Literature review and report writing.

Conflict of Interest:
The authors declare that they have no conflict of interest.

Source of Funding:
None

How to Cite This Article:
Chaudhry SM, Anwer S. Presentation and management of vaginal vault hematoma after hysterectomy. J Surg Pakistan. 2016;21(1):35-8. Doi:http://dx.doi.org/10.21699/jsp.21.1.9