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Research Article

Analytical study of hysterectomies

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ABSTRACT

Background: Since early 20th century hysterectomy came into widespread use. The incidence of hysterectomy varies from place to place depending upon the clinical and clinician factors. Sometimes there are considerable problems in clinical assessments as the patient's complaints, the clinical findings and per-operative diagnosis does not correlate with histopathological diagnosis. This is a retrospective study to correlate and evaluate the sensitivity between the indications, demographic features, clinical presentations, per-operative findings and histopathological diagnosis of patients who underwent hysterectomy.
Methods: This study was conducted in the department of obstetrics and gynaecology, in SVMCH and RC, Ariyur, Pondicherry, India. There were 1124 cases of hysterectomies done over a period of five years, from 2011 to 2015. Data was recorded and analyzed from the case record of each patient, which was obtained from the medical record department of the hospital.
Results: During the study period there were 1124 cases of hysterectomies done; out of which total abdominal hysterectomy with bilateral salphingo-oophorectomy were 915 cases 81.4%. Leiomyoma is the dominant histopathological diagnosis in our study 22.4%. Both adenomyosis and leiomyoma was present in 6.4% of the cases. In our study the pre-operative diagnosis, specificity to pathological correlation is 91 to 100%, and for leiomyoma it is 99%.
Conclusions: Hysterectomy is the preferred procedure in the treatment for pelvic pathologies like fibroid, adenomyosis, pelvic inflammatory disease and malignant disorder, and genital prolapse. Majority of the hysterectomy procedures are performed via an abdominal approach.

Keywords: Hysterectomy, Menorrhagia, Histopathology, Leiomyoma, Adenomyosis

INTRODUCTION

Since early 20th century hysterectomy came into widespread use due to safety of anaesthesia, aseptic technique, antisepsis and new generation antibiotics which lead to the development of safe surgical treatments for benign and malignant gynaecologic disease. The mortality rate of hysterectomy decreased from 70% in 1880 to 3% in 1930, at present it is less than 0.1 percent.[1]

The incidence of hysterectomy varies from place to place depending upon the clinical and clinician factors.[2] The Indian incidence is 6% to 8% and rising, whereas in developed countries it is (10-20%).[3] In 1507 Berengarius of Bologna preformed the first hysterectomy by vaginal route, though credit was given to Langen, in 1813. Clay in 1844, performed the first total abdominal hysterectomy with bilateral salphingo-oophorectomy.[4]

There has been a remarkable improvement in conservative management of uterine lesions; still hysterectomy is the preferred procedure in the treatment for pelvic pathologies like leiomyoma, adenomyosis, pelvic inflammatory disease and malignant disorders.[5] Also the increase in hysterectomies may be due to prophylaxis against uterine cancer, in cases of mild genital prolapse and premenopausal menorrhagia.[6]

Hysterectomy must never be done without proper indications. According to Dicker, hysterectomy is indicated when the risk of preserving the uterus is greater than the risk of its removal or when medical treatment is not successful in relieving the disabling symptoms.[7] Hysterectomy should not be done as a prophylaxis against mild abnormal cervical cytology or without a trial of medical treatment in endometrial hyperplasia.[8]

Sometimes there are considerable problems in clinical assessments, as the patients do not understand the severity of their symptoms, as a result the findings often do not co-relate with their complaints and the clinical and per operative diagnosis does not correlate with histopathological diagnosis. Women from rural areas seek medical care late, due to socio-economic factors and availability to health care facilities, when conservative treatment is not possible and the best treatment option will be hysterectomy, but with proper selection of patients the morbidity and mortality of hysterectomy can be kept low.[9,10]

Majority of the hysterectomy procedures are performed via an abdominal approach (64%) -TAH total abdominal hysterectomy and TAH+BSO- total abdominal hysterectomy with bilateral salphingo-oophorectomy, or vaginal route (22%)- VH+PFR-vaginal hysterectomy with pelvic floor repair, and by laparoscopy (14%)- TLH -total laparoscopic hysterectomy or LAVH laproscopic assisted vaginal hysterectomy Jacoby et al.[1] The society of pelvic reconstructive surgeons issued guidance regarding the, hysterectomy route in 1999, since then vaginal hysterectomy has again gained favor.[11]

Abnormal uterine bleeding, myoma uteri and endometrial hyperplasia are the most common indications for hysterectomy; the other indications are adenomyosis and uterine prolapse.

Abnormal uterine bleeding is caused by hormonal imbalance and conditions such as polyps, myomas, endometrial hyperplasia and cancers of the cervix and endometrium. Hyper estrogenic conditions where the endometrium is in the proliferative phase if untreated, may lead to endometrial carcinoma. Bleeding in post-menopausal women is the most common presenting symptom for endometrial cancer. Most common histopathological diagnoses reported in hysterectomy specimens are leiomyoma, adenomyosis and endometrial hyperplasia.[12]

In hysterectomies performed, the clinical and per operative findings often do not correlate with the histopathological diagnosis. This is a retrospective study to correlate and evaluate the sensitivity between the indications, demographic features, and clinical presentations and per-operative findings and histopathological diagnosis in patients who underwent hysterectomy.

METHODS

This is a retrospective study conducted in the department of Obstetrics and Gynaecology, in SVMCH and RC, Ariyur, Pondicherry, India. There were 1124 cases of hysterectomies done over a period of five years, from 2011 to 2015.

Data was recorded and analyzed from the case record of each patient, which was obtained from the medical record department of the hospital. The age, parity, clinical presentation, clinical findings, along with the ultrasonographic findings were taken into account to establish the clinical diagnosis. The final indication for surgery, type of hysterectomy, and the operative findings of each patient was recorded for analysis. The surgical specimens had been sent to the pathology department where they were fixed in 10% buffered formalin embedded in, paraffin and 4-5 µm thick sections were cut and stained with haematoxylin and eosin. Special stains were used when required. The histopathological diagnosis and reports were analyzed. Finally the clinical diagnosis was correlated with histopathological findings in the tabulated form for evaluation.

RESULTS

During the study period there were 1124 cases of hysterectomies done; out of which total abdominal hysterectomy with Bilateralsalphingo -oophorectomy cases were 915 (81.4%). Vaginal hysterectomy with Pelvic floor repair cases were 153 (13.6%) and total abdominal hysterectomy cases were 56 (5%) as shown in Table 1.

Table 1: Distribution of cases by type of hysterectomy done.

Type of hysterectomy	Number of cases	%
VH+PFR	153	13.6
TAH	56	5.0
TAH+BSO	915	81.4
Total	**1124**	**100**

The age incidence of these patients is shown in Table 2. It is in the age group 41 to 50 years that the maximum numbers of hysterectomies were done 776 cases (69%) followed by 270 cases (24%) in age group 31 to 40 years.

Table 2: Age wise distribution of hysterectomy cases.

Age in years	Number of cases	%
31 to 40	270	24
41 to 50	776	69
51 to 60	56	5
61 to 70	22	2
Total	**1124**	**100**

In the presenting complaints, as shown in Table 3, menorrhagia is dominant 713 cases (63.4%), followed by mass descending per vaginum 12.9%, discharge per vaginum 11.6%, pain abdomen 11% and post-menopausal bleeding in 1.1%.

Table 3: Distribution of cases by the presenting complaints.

Presenting complaints	Number of cases	%
Mass descending per vaginum	145	12.9
Menorrhagia and dysmenorrhea	713	63.4
Pain abdomen	124	11.0
Discharge per vaginum	130	11.6
Post-menopausal bleeding	12	1.1
Total	**1124**	**100**

In the final clinical diagnosis of this study, leiomyoma is the commonest, 324 cases (28.8%) followed by abnormal uterine bleeding 298 cases (26.6%). The incidence of adenomyosis is 11% (124 cases) Table 4.

Table 4: Distribution of cases by the clinical diagnosis.

Clinical diagnosis	Number of cases	%
Uterovaginal prolapse	145	12.9
Leiomyoma	324	28.8
Adenomyosis	124	11.0
AUB	298	26.6
Benign ovarian tumor	102	9.1
Chronic cervicitis	105	9.3
CIN	26	2.3
Total	**1124**	**100**

Table 5: Distribution of cases by the histopathological diagnosis.

Histopathological diagnosis	Number of cases	%
Leiomyoma	252	22.4
Adenomyosis	244	21.7
Adenomyosis+leiomyoma	72	6.4
Endometrial hyperplasia	158	14.1
Benign ovarian tumor	102	9.1
CIN 2/3	26	2.3
Chronic cervicitis	105	9.3
Atropic endometrium	54	4.8
Proliferative endometrium	111	9.9
Total	**1124**	**100**

Leiomyoma is the dominant histopathological diagnosis in our study, 22.4% (252 cases) followed by adenomyosis 21.7% (244 cases). Both adenomyosis and leiomyoma was present in 72 specimens (6.4%). Chronic cervicitis was seen in 9.3% of the cases and CIN 3 (cervical intra epithelial neoplasia) in 2.3% of the cases. Benign ovarian tumor as an indication for hysterectomy is 9.1% (102 cases). The incidence of atrophic endometrium is 4.8%, where as that of disordered proliferative endometrium is 9.9% (111) cases Table 5.

DISCUSSION

In our study the maximum incidence of hysterectomy is in the age group of 41 to 50 and the mean age in our study is 44.5 years. Similar incidence is reported by Selvi T et al and other studies.[13-15] According to Chryssikopoulos A et al 74.8% of the patients undergoing abdominal hysterectomy were aged 36 to 55 years, mean 44.2, whereas the patients undergoing vaginal hysterectomy were aged 56 to 75 years mean 44.3.[16]

In the present study, total abdominal hysterectomy with Bilateral salphingo oophorectomy is the commonest, 81.5%. Gyam A has reported a 77.3% incidence of hysterectomies by abdominal route.[17] An incidence of 81.7% is being reported from Gombe, Nigeria.[18] Our incidence is comparable to similar other studies.[9,19] The abdominal route for hysterectomy was also the preferred route in a study in Istambul 82.7%.[20] In a study by Chryssiopoulos et al, the abdominal route of hysterectomy was 85.33% and the vaginal route was 14.67%, which is comparable to our study.[16]

The main presenting complaint in our study is menorrhagia (63.4%), followed by mass per vaginum (12.9%). This is similar to the study of Mahmoud Khaniki et al, where abnormal uterine bleeding was the chief complaint 62.2%, abdominal pain 13.3% and uterine prolapse 7.4%.[21] Shergill SK reported, menorrhagia as the chief complaint in women undergoing hysterectomy 66%.[22] The incidence of uterovaginal prolapse in the study of Neena Y et al is 18%.[23] The other cases in our study presented with the complaints of discharge per vaginum (11.6%), pain abdomen (11%) and postmenopausal bleeding (1.1%).

Leiomyoma was the main indication for hysterectomy in our study 28.8%, which is similar to the studies of Ajmera et al, Gupta et al, Khan R et al.[19,24,25]

Isaoglu et al reported, leiomyoma as an indication of hysterectomy at 28.19%, whereas Dincgez et al quoted leiomyoma to be the indication for hysterectomy at 32.77%.[12,26] Shergill SK reported leiomyoma as the commonest indication for hysterectomy 34% followed by abnormal uterine bleeding 26%.[22]

Abnormal uterine bleeding (AUB) is the second commonest indication for hysterectomy in our study

26.6%, followed by adenomyosis 11% and chronic cervicitis 9.3%, benign ovarian tumor 9.1%, CIN 3 2.3%. Similar report is quoted by Cameron IT.[27] According to the study of Jha et al, leiomyoma is the indication for hysterectomy is 24.9%, benign ovarian tumor is 14.9% and AUB is 7.7%.[15] Whereas Clarke et al reported the commonest indication to be AUB 58% followed by leiomyoma 23.2%.[28] According to Neena et al, adenomyosis is an indication for hysterectomy is 10% and utero-vaginal prolapse 18%.[23] Aksuf et al reported, leiomyoma is the commonest indication for hysterectomy 38.49% followed by uterine prolapse 11.9%.[20] In the study of Tan XJ et al the indications were, leiomyoma 56.2%, adenomyosis 12.2%, benign ovarian tumor 9.2% and genital prolapse 7.7%.[29]

In the histopathological diagnosis of our study, leiomyoma is predominant 22.4% followed by adenomyosis 21.7%. Both leiomyoma and adenomyosis are seen in 6.4% of the cases. The incidence of leiomyoma is about 20% in reproductive age group and increases with age, which is similar in our study.[30] In a study by Sobande AA, leiomyoma was the commonest histopathological diagnosis 25.8% of the hysterectomy specimens followed by adenomyosis 22.7%.[10] According to Bhide et al the histopathology incidence of leiomyoma is 19%.[31] Similar reports were published by Sarfraz T and Praveen S.[32,33] Whereas Jamal S, Braai S, reported leiomyoma at 35.7% and adenomyosis 30%.[34] Isaoglu reported adenomyosis to be found in 30.23% of the cases.[12] According to Abdulla LS leiomyoma is the commonest histopathology followed by adenomyosis.[9] Leiomyoma and adenomyosis were present together in 6.4% of our study which is similar to the study of Sarfarz, Sakria and Talukder.[32,33,35] In our study there were 3 cases of leiomyoma with endometrial hyperplasia.

In our study endometrial hyperplasia is the histopathology diagnosis in 14.1% of the cases. A similar incidence is reported by Ranabhat et al.[36] Similar report is also by Isaoglu U.[12] Whereas Ojeda et al reported endometrial hyperplasia at 22.3%.[37]

In this study atropic endometrium was the histopatholological diagnosis in 4.8% and proliferative endometrium in 9.9% of the cases. Atrophic endometrium was found in utero vaginal prolapse specimens, and proliferative endometrium was the diagnosis in women of more than 45 years of age with abnormal uterine bleeding. Chronic cervicitis was diagnosed in 9.3% and CIN3 in 2.3% of the cases. All cases of chronic cervicitis were clinically diagnosed and histologically proven. CIN3 was suggestive by papaincolaou smear stain and proven by histology. Benign ovarian tumor was the diagnosis in 9.1% of the cases, diagnosed clinically and proven by histology.

In our study the pre-operative diagnosis specificity to pathological correlation is 91 to 100%, leiomyoma 99%, endometrial hyperplasia is 97%, adenomyosis 92%, CIN is 91%, and chronic cervicitis is 99.1% and benign ovarian tumor 100%. Lee NC in his study had 80% pre-operative diagnosis correlated to histopathology diagnosis, of which endometrial hyperplasia was 95% and CIN 89%.[38]

CONCLUSION

There has been a remarkable improvement in conservative management of uterine lesions; still hysterectomy is the preferred procedure in the treatment for pelvic pathologies like leiomyoma, adenomyosis, pelvic inflammatory disease, malignant disorders, and genital prolapse. Majority of the hysterectomy procedures are performed via an abdominal approach. Reconstructive Surgeons issued guidance regarding the, hysterectomy route in 1999, since then vaginal hysterectomy has again gained favour. The maximum incidence of hysterectomy is in the age group of 41 to 50. Leiomyoma was the main indication for hysterectomy. In the histopathological diagnosis, leiomyoma is predominant followed by adenomyosis. The pre-operative diagnosis specificity to pathological correlation in leiomyoma is 99%.

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