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Clinical study on hysterectomy for AUB as surgical management at tertiary care centre GGH, Kakinada

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Abstract
Objectives: Hysterectomy is most common gynaecological surgery next to cesarean section. This study has been designed to identify the indications and methods of hysterectomy for Abnormal uterine bleeding (AUB) based on PALM – COEIN classification, with the histopathological correlation in a tertiary care hospital.
Methodology: This is the retrospective study based on patient's case records, admitted between 2015 – 2018 in obstetrics and gynaecology department, Government General hospital, Rangaraya Medical College, Kakinada. 100 AUB patients who have undergone hysterectomy, are categorised as per methods and indications as PALM – COEIN classification were selected for study. Data recorded before and after operation in the case sheets, entered in excel sheet, analysed with SPSS version16 for statistical significance.
Results: In the present study of n= 100 subjects who were treated with hysterectomy for AUB were studied. Total abdominal hysterectomy (TAH) was the most common method and Leiomyoma (75%) of the uterus found to be major indication of hysterectomy followed by endometrial dysfunction, polyp, adenomyosis, malignancy. Mean duration of hospital stay was 7 to 8 days. Most common postoperative complication was wound infections followed by fever and urinary tract infections. There was no mortality.
Conclusion: Total abdominal hysterectomy was the most common method of hysterectomy. Most common indication for hysterectomy as per PALM – COEIN classification is leiomyoma. Post-operative complications were more with TAH.

Keywords: Hysterectomy, PALM – COEIN classification, postoperative complication

Introduction
Hysterectomy word derived from Greek hysteron - "uterus", ektome – "cutting out of "is the surgical removal of uterus. Despite emerging medical and surgical therapies, AUB remains a common medical problem among women. However with emergence of effective medical and conservative treatment for benign conditions it is now posing a question mark regarding the justification of hysterectomy. Hysterectomy represents the most common gynaecological procedure in the world and a third of 60-year-old women underwent this surgery [1] Its effectiveness in improving AUB symptoms, being curative and definitive, is well recognized Though a number of minimally invasive surgical options for hysterectomy are available, because of their restricted availability, poor knowledge, high cost, need for follow up, limit them from being widely used. Therefore, hysterectomy either vaginal or abdominal still remains the widely accepted and practised treatment of choice for majority of gynaecological diseases. According to Magon *et al.* [2] hysterectomy is a surgery which has been used and misused, underused and abused at different times in gynaecology. The modern trend in approaching AUB is related to the reduction of the global number of hysterectomies. A conservative surgical management of this common symptom is mandatory independently from the need of pregnancies. Conservative endoscopic surgery and medical treatment of AUB are now facilitated by the use of the PALM-COEIN classification PALM COEIN classification system is the basic system that comprises 4 categories, defined by visually objective structural criteria (PALM: polyp, adenomyosis, leiomyoma, malignancy and hyperplasia), that are unrelated to structural anomalies (COEIN: coagulopathy, ovulatory dysfunction, endometrial, iatrogenic) and one reserved for entities that arenot yet classified (N).

This retrospective study was done to determine indications of hysterectomy as per PALM COEIN classification, presenting symptoms, associated comorbidities, methods of hysterectomy and postoperative complications. We want to stress on fact that the uterus not be considered for child bearing purposes only, as after hysterectomy females suffer from various psychosexual dysfunctions. It may have a significant impact on women's personal, social, physical, and quality of life with significant financial burden to the country's economy [3].

Methods

This retrospective study was performed in the department of obstetrics and gynaecology, Rangaraya medical college, Government general hospital, Kakinada on 100 inpatients from 2015 to 2019 of 3 ½ year period. This is a tertiary level teaching institute catering to the needs of adjoining rural population in east Godavari district, South India. All women [reproductive age to post-menopausal] who underwent hysterectomy with or without salpingo- oophorectomy were included in this study. All patients are included in PALM- COEIN classification.

Inclusion criteria

All non-obstetric causes, hysterectomies for Abnormal uterine bleeding.

Exclusion criteria

Contains obstetric hysterectomies, pelvic organ prolapse and other indications like mass per abdomen, malignancies without AUB.

Baseline data were collected from inpatient files from gynaecology ward to determine the indication for surgery, distribution according to age, associated comorbidities, post-operative complications.

Structured history followed by general physical, systemic and gynecological examination was carried out. On gynecological examination, external genitalia, cervix, uterus and adnexa were assessed. A pelvic ultrasound was done to assess uterus and adnexa for any pathology. Endometrial biopsy done, mode of hysterectomy assessed and done. The gross and microscopic findings of the hysterectomy samples were obtained were subjected to histopathology. The causes were categorized according to PALM group were classified as per the structural abnormality noted (FIGO Classification) [4, 5] and clinical diagnosis was then correlated with histopathology. The COEIN group stands for coagulopathy, ovulatory disorders, endometrial, iatrogenic, not otherwise classified and related to non – structural etiologies that cannot be assessed by imaging or histopathology [3]. The present classification system not designed to replace those of WHO, FIGO for categorizing the endometrial hyperplasia and neoplasia [6, 7]. The lesions are usually benign but a small miniority may have atypical or malignant features [8, 9]. The COEIN group were classified where no structural alterations were appreciated. The systamic disorders of hemostasis (Coagulopathies) should be screened for using a structural history [10]. Coagulopathy was labelled for all known cases of coagulation. Bleeding time, clotting time was done for all cases. Prothrombin time, activated partial thromboplastic time were done whenever required. Ovulatory disorder was defined as unpredictable timing and variable amount of bleeding. Endometrial disorders were refered to causes where predictable or cyclical pattern was observed. Iatrogenic category was categorized by onset of symptomes following use of hormonal contraceptive device/method in the preceding 3 months [11].

Results

During the study period, a total of 100 women of age 25 – 60 who underwent for hysterectomy were assessed. Mean age for overall hysterectomy was 43.71 years with 1SD 7.11 years.

Table 1: Characteristics of participants [n=100]

Age in years	number	%
<30	1	1
30- 39	19	19
40-49	59	59
50-59	18	18
>60	3	3

Table 1 shows the participant characteristics. Almost more than half of the women around 59 are in the age group between 40-49. Around 19 are between 30-39. Around 18 are near menopausal age that is between 50-59. Very less are post menopause that is only 3 members. 59 % of the women undergoing hysterectomy were in the age group of 40-49 years. Table 4 Shows Indications of hysterectomy according to PALM – COIEN classification. In this majority of patients have structural abnormalities. Of this maximum no of patients had leiomyoma that is 57 patients. Remaining have other structural causes like polyp for 8 patients, adenomyosis for 5 patients, malignancy for 5 patients. Of non-structural causes endometrial causes are 23, ovarian dysfunction for 2 members as shown in table 6, Figure 1.

Table 2: Distribution of menstrual complaints and duration

	Number	Duration 1-3 months	3-6 months	6-12 months	>12 months
Menorrhagia	81	45	15	11	10
Polymenorrhagia	1	-	1	-	-
Metrorrhagia	7	2	4	1	-
Postmenopausal bleeding	5	5	-	-	-
menometrorrhagia	6	4	2	-	-

Table 2: shows distribution of menstrual complaints and duration. Almost 81 patients have complaints of menorrhagia were maximum members fall under the range of1 to 3 months i.e. 45 patients. 10 patients are with duration >12 months. Post-menopausal bleeding present for 5 patients. Inter menstrual bleeding present for 7 patients. With a period of 3 to 6 months for most of them that is 4 patients. 81% of the women came with chief complaint of menorrhagia figure 1.

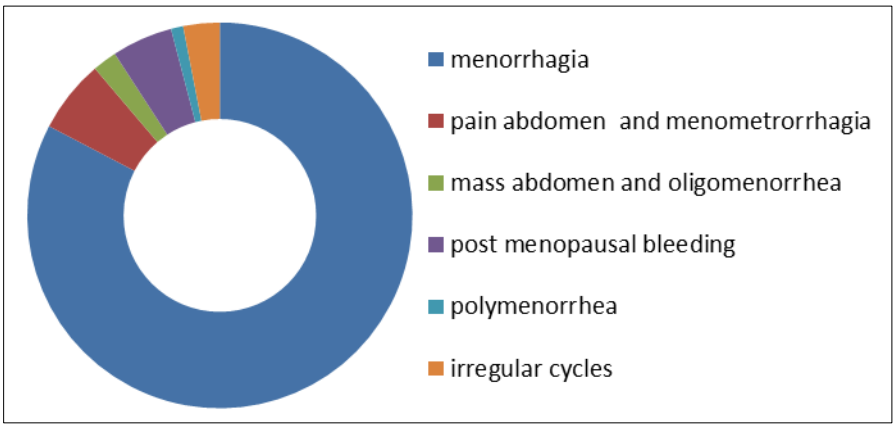


Fig 1: Diagrammatic representation of chief complaints of patients

Table 3: Presentation of AUB

Presentation	Number of cases	Presentation	Number of cases
Menorrhagia	81	Poly menorrhea	1
Pain abdomen metrorrhagia	6	Irregular cycles	3
Menorrhagia mass abdomen	2	Dischargeper vegina	2
Post-menopausal bleeding	5		

Table 3, shows presentation of AUB with or without pain abdomen. AUB with pain abdomen only for 6 patients, remaining are with other complaints.

Ultra sound findings & HPE of patients. Of these majority of the patients have fibroid uterus that is 42 patients. Very less patients have malignancy that is 5 patients. Adenomyosis is present for 5 patients. Bulky uterus for 14 patients. Polyp for 8 patients. Thickened endometrium for 14 patients, rest of the cases are non-structural causes.

Table 4: Case distribution according to indications of hysterectomy

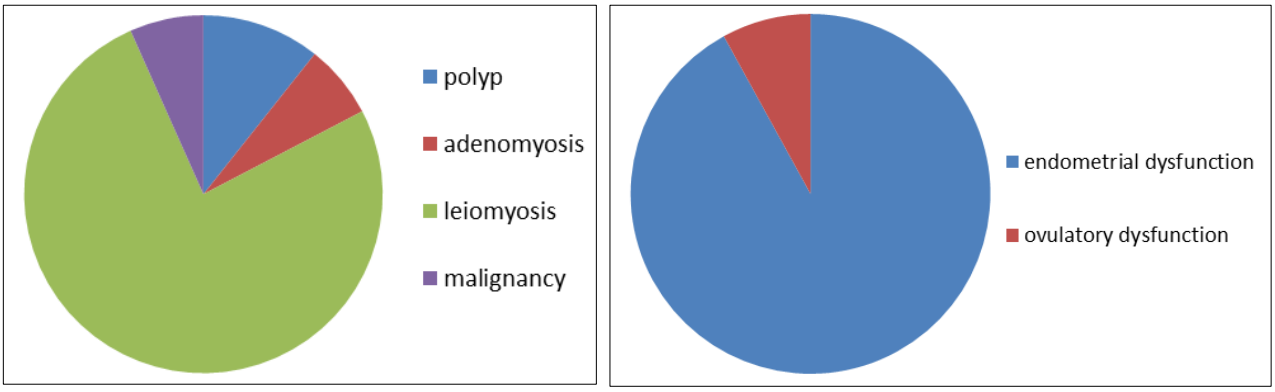
Indication	Number of cases
Polyp	8
Adenomyosis	5
Auba-E	23
Ovarian dysfunction	2
Fibroid	57
Ca. endometrium	5

Table 4 shows indications of hysterectomy. In this majority of cases are fibroid 57, AUB E 23, polyp 8, adenomyosis 5, ca. endometrium 5, and ovarian dysfunction 2.

Table 5: Patients categorised into PALM - COIEN classification

Structural causes	Non-structural causes
p-polyp- 8	C- coagulopathy -0
A – adenomyosis - 5	O - ovarian dysfunction - 2
L - leiomyoma - 57	E - endometrial causes -23
M- malignancy - 5	I -Iatrogenic - 0
	N - not yet classified -0

Table 5 shows indications of hysterectomy according to PALM – COIEN classification.



Palm Coein

Fig 2: Shows indications of hysterectomy according to PALM – COIEN classification

In this majority of patients have structural abnormalities. Of this maximum number of patients had leiomyoma that is 57 patients. Remaining have other structural causes like polyp for 8 patients. Adenomyosis for 5 patients, malignancy for 5 patients. Of non-structural causes endometrial causes are 23, ovarian dysfunction for 2 patients. As in Table 5. There were 21 patients. Who were managed with medical treatment but bleeding not subsided with Anti-fibrinolytics and Harmones but recurred after stoppage. No surgical management prior to surgery not done.

Method of hysterectomy is more of TAH. In this series, 61 are underwent for TAH with BSO, 31 underwent only for TAH, 2 underwent for lap assisted vaginal hysterectomy, one for

Vaginal Hysterectomy., Radical hysterectomy 2, modified radical hysterectomy 2, extended TAH+BSO 2.Mean age for TAH is 41.5years, TAH + BSO is 44.2 years, for radical hysterectomy mean age is maximum that is 57 years as shown in Figure 3.

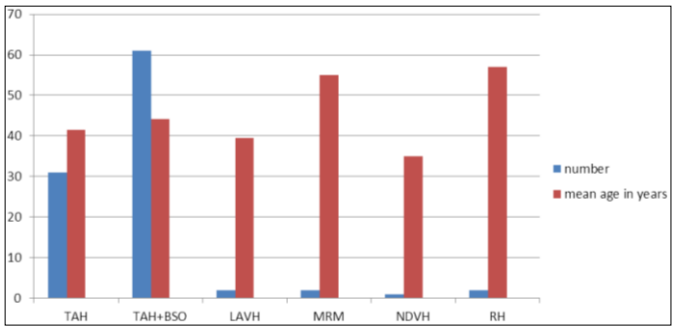


Fig 3: Shows patient underwent for which type of hysterectomy

The percentage of postoperative complications of the patients underwent total abdominal hysterectomy.in this 6% of the patients have urinary tract infection, 12 % had fever and 13% had wound infections. These wound infections were observed post operatively due to pre-existing malnutrition, anaemia associated diabetes mellitus. Wound infections are most common in age group 45 years. There was no mortality.

Discussion

Surgical management should be considered for patients who are not clinically stable, are not suitable for medical management, or have failed to respond appropriately to medical management[12]. AUB remains a common medical problem among women despite emerging medical and surgical therapies in the present study (n=100) who underwent hysterectomies for AUB were analysed for methods and indications of hysterectomy. AUB is reported to occur in 9 to 14 % women between menarche and menopause [18]. In India, the reproductive prevalence of AUB is around 17.9% [19]. Thus, the impact of this condition on the public health and health care costs is significant. Because medical therapies for AUB have significant failure rates or side effects, surgical treatment by hysterectomy remains a major therapeutic option for chronically symptomatic women. Mahoney and colleagues report it is indication for two thirds of hysterectomies and nearly 25% of gynaecologic operations. Antifibrinolytic drugs, such as tranexamic acid, work by preventing fibrin degradation and are effective treatments for patient with chronic AUB. They have been shown to reduce bleeding in these patients by 30-55% [15, 16]. In our study medical treatment used for 21% over 6 to 12 months. Combined OCs and oral progestins, taken in multi dose regimens, also are commonly used for acute AUB. One study compared participants who underwent therapy with OCs administered three times daily for 1 week with those underwent therapy for I week for the treatment acute AUB [17]. The patient age range from 30 to 60 years with mean age 43.71 years with 1 SD of 7.11 years. Of this for TAH is 41.5 years and TAH + BSO is 44.2 years. This is correlate with study of Whiteman MK *et al*: according to this study highest rate of hysterectomy between ages of 40-49 with an average of 46.1 years [20].

The most common indication was leiomyomas according to PALM- COIEN classification. Structural causes were carried more incidence about 75 % in our study. Non-structural causes carried 25% studies using sonological or histological examination[11]. Our study was most similar with Gimmbel H, *et al* and Leung PL, *et al* in the study most common indication for hysterectomy was fibroid uterus [n=688 (73.7%)] [21]. Most common complaint was menorrhagia. In relation to menorrhagia 9% were detected as polyp, 4% as adenomyosis, 47% as leiomyoma, only 2% carried malignancy. Other most common is endometrial causes followed by other structural causes like polyp and adenomyosis. Endometrial carcinoma was present in 5% of study. According to Chanderdeep Sharma, *et al* AUB is most common cause of TAH [22] with prevalence of 8.8%. These were underwent radical hysterectomy with mean age of 57 years. In our study endometrial causes are most common in age group 40- 49 years. Endometrial causes were most common in the age group 50-60 [13, 14].

Postoperative complications are UTI, fever, wound infections and wound dehiscence. Wound infections. UTI present in 6%, fever in 12 %, wound infections in 13% of total number of patients. These are mainly related to preoperative malnutrition comorbidities like diabetes millet us. There was no mortality This study wants to highlight the fact that reporting of all total hysterectomies are to have clear cut indications of PALM-COIEN classification.as any surgical procedure hysterectomy is also associated with risk factors, thus indications should be carefully evaluated and other minimally invasive methods or long acting medical methods can be tried if available alon with patient follow up.

Conclusion

Hysterectomy is one of the most common gynaecological surgeries. TAH was more common. As per PALM- COIEN classification leiomyomas are most common in structural causes followed by polyps and adenomyosis. In non-structural causes endometrial dysfunction is most common indication. Inspite of technological advancements of medical and minimally invasive surgical procedures, still hysterectomy is the preferred procedure for AUB due to structural lesions.

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