

DIAGNOSIS OF ENDOMETRIAL TUBERCULOSIS AMONG FEMALES WITH MENSTRUAL DYSFUNCTION ON ENDOMETRIAL HISTOPATHOLOGY

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Article Received on
24 Sept. 2021,

Revised on 14 Oct. 2021,
Accepted on 03 Nov. 2021

DOI: 10.20959/wjpr202114-22088

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ABSTRACT

Background: Tuberculosis is a major health concern worldwide. Pakistan accounts highest global burden of tuberculosis. One of the millennium development goals aspire to reduce the burden of tuberculosis. The aim of study was to find out the frequency of endometrial tuberculosis on endometrial histopathology in women who underwent endometrial biopsy. **Objective:** To determine the frequency of endometrial tuberculosis on endometrial histopathology in women who had endometrial biopsy for evaluation of menstrual dysfunction. **Methods:** A prospective cross-sectional study was conducted at Abbasi Shaheed Hospital, Karachi, Pakistan during Jan 2019 to Dec

2020. A total 129 reproductive female included in study presented with menstrual dysfunction between 20-45 years after taking informed consent. In all women premenstrual endometrium biopsy was taken for histopathology by diagnostic curettage. Results were analyzed on SPSS version 20; frequency and percentage were calculated for demographic characteristic, clinical symptoms and biopsy result. Association was calculated for clinical menstrual symptoms and histopathology with p -value >0.05 was taken as significant. **Results:** In our study 129 females with menstrual symptoms was included. The mean age of females was 36.15±4.41 years. The commonest presenting symptoms were heavy menstrual bleeding 69.8%. Out of 129 females, only one patient (0.8%) found positive for tuberculosis on histopathology. **Conclusion:** Diagnosis of endometrial tuberculosis in women with menstrual symptom on histopathology is small but significant. Female endometrial

tuberculosis should be considered for exclusion if the patient presents with menstrual symptoms.

KEYWORDS: Genital tuberculosis, endometrial histopathology, menstrual irregularities.

INTRODUCTION

Tuberculosis is a major health issue globally in 5-10%.^[1,2] Pakistan accounts highest global burden of tuberculosis. It ranks 8th amongst the countries with high prevalence of tuberculosis throughout the world. It is 2nd leading cause of mortality from infections. Latent tuberculosis infection is found in 2 billion of people. Pakistan is one of developing country with high incidence of genital tuberculosis accounts for approximately 2-10% of all tuberculosis patients.^[3,4]

Genital tuberculosis occurs usually as secondary to pulmonary tuberculosis or other extra pulmonary tuberculosis spread by the hematogenous route.^[5] The fallopian tubes are involved by tuberculosis in almost 100% of cases, while endometrial involvement was found in 50% of cases.^[6] Menstrual dysfunction is largely attributed to endometrial caseation, resulting in asherman's syndrome and infertility occurs due to pathology in endometrium and fallopian tubes and dysfunction of ovum transport.^[7,8] There are different methods used for diagnosis of genital tuberculosis. The oldest methods used for diagnosis of tuberculosis is presence of mycobacterium tuberculosis on microscopy or culture of mycobacterial organism in endometrial sample. Recently PCR(Polymerase chain reaction) technique is used for rapid diagnosis of female genital tuberculosis with good sensitivity.^[9-11] Genital tuberculosis can be diagnosed by taking biopsy of endometrial tissue for histopathology in premenstrual phase of menstrual cycle or presence of tubercle bacilli organism in endometrial samples.^[12] Abnormal uterine bleeding in genital tuberculosis has been reported in 10 to 30% of cases.^[13] One of the millennium development goal aspires to reduce the burden of tuberculosis, so there is necessity to identify the gap in knowledge to control extra pulmonary tuberculosis among women.

The main aim of this study was to know the frequency of endometrial tuberculosis on endometrial histopathology in women who had endometrial biopsy for evaluation of menstrual dysfunction in our local population.

MATERIAL AND METHOD

This is cross sectional which was conducted at Abbasi Shaheed Hospital Karachi gynae department, during JAN 2019 to DEC 2020. A sample of 129 women presenting with menstrual symptoms as calculated by Epi info sample size calculator with 95% confidence interval.^[14] The study was conducted according to Helsinki Declaration. All reproductive female between age 20-45 years with menstrual disorders were included after taking informed consent. Women who had antituberculosis treatment and not willing to participate were excluded from study. Information regarding age, detailed menstrual history, medical and drug history were recorded by researcher on predesigned performa. Systemic examination was done. Premenstrual endometrial sampling was taken by diagnostic curettage and samples sent to lab for histopathology. Reports of biopsy were collected and recorded on performa. The caseating granulomas surrounded by epithelioid cells, lymphocytes and giant cells on histopathology are diagnostic of endometrial tuberculosis. Data analysis was done by SPSS version 20. Frequencies and percentages were calculated for demographic characteristic, clinical symptoms and biopsy result. Association was calculated for clinical menstrual symptoms and histopathology report with p -value >0.05 was considered significant.

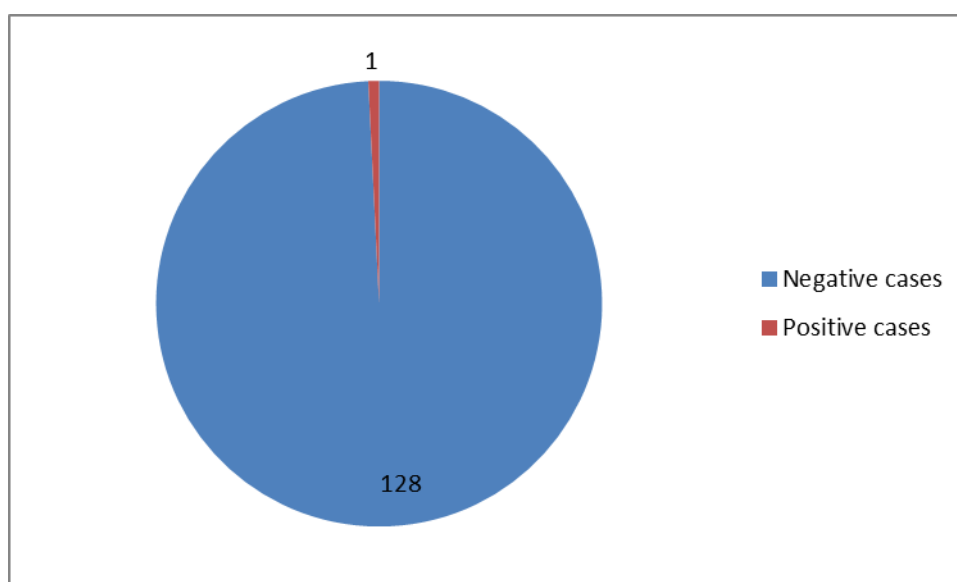
RESULTS

In our study 129 females who underwent diagnostic curettage with menstrual symptoms were included. Table 1 showed demographic characteristics of study population. Mean age was 36.15 ± 4.41 years and having mean parity 4.4 ± 2.5 . Most of female belonged to low socioeconomic status. In our study 69.8% female presented with heavy menstrual bleeding and 30.2% with irregular menstrual pattern.

Among 129 female presented with menstrual disturbances underwent histopathology, only one woman (0.8%) diagnosed endometrial tuberculosis as shown in figure1. There was no association found between clinical menstrual symptoms and histopathology findings (p value=0.437).

Table 1: The Demographic characteristics of study.

S.no	Characteristics	Frequency (n)	Percentages (%)
1	Age(years)		
	<30	46	35.65%
	31-40	40	31.00%
	>40	52	40.31%
2	Parity		
	1-3	51	39.50%
	4-6	60	46.50%
	>6	18	14.00%
3	Socioeconomic status		
	Low	82	63.60%
	Middle	47	36.40%
	Upper	00	00.00%
4	Education		
	Illiterate	65	50.40%
	Primary	29	22.50%
	Secondary	35	27.10%
5	Menstrual symptoms		
	Heavy menstrual bleeding(HMB)	90	69.80%
	Abnormal uterine bleeding(AUB)	39	30.20%
6	Occupation		
	House wife	105	81.90%
	working women	24	18.60%

**Figure 1: Frequency of endometrial tuberculosis on histopathology.**

DISCUSSION

Pakistan belongs to a country with highest prevalence of tuberculosis. Extra pulmonary tuberculosis Genitourinary tuberculosis are higher in female population.^[15-17] Genital tuberculosis varies worldwide, because of differences in studied population, type of test available and used for diagnosis of tuberculosis, and timing of sample taken in relation of menstrual cycle.

It is a big challenging issue for gynecologist. It is essential to use a sensitive and specific test for diagnosis of tuberculosis taken by biopsy from genital tract, hence to treat the disease properly. The most common, easy and reliable way to get tissue for diagnosis with a high frequency of involvement of endometrium. The histopathology of endometrium is more accurate and rapid method of diagnosing genital tuberculosis in approximately 50% of population.^[3, 18-20]

In our study population, women who had endometrial biopsy for menstrual problems, it was found that the frequency of endometrial tuberculosis was 0.8% on histopathological examination, while other studies showing a high prevalence rate in countries with a high load of tuberculosis.^[4,7,12,19,22] It could be due to difference in taking sampling methods. The prevalence might be higher if endometrial samples were taken by hysteroscopy as tissues can be taken under direct vision, so the chance of missing disease can be minimized.

Although female genital tuberculosis can occur in any age group, usually it affects more to reproductive age. In our study the mean age of female was 36.15 ± 4.41 years \pm S.D, 66.65 % of female belong to 20-40 years of age, our finding are similar to others finding.^[5,7] In the reproductive age, tuberculosis granulomas have to regenerate from basal layer after menstrual shedding of functional layer.^[23] The granulomas become well developed and numerous as the menstrual cycle progresses so biopsy is recommended in premenstrual phase of cycle. it can be helpful if granulomas are found. Endometrial tuberculosis does not show a typical pattern. A different variation in endometrial pattern is seen, either focal or diffuse granulomatous in superficial endometrial layer during second half of menstrual cycle.^[24,25]

Many studies have reported, typical features of tuberculosis form granulomatous biopsy, in diagnosis of genital tuberculosis.^[26-31] Most of patients with genital tuberculosis are asymptomatic or can be present as Chronic Pelvic inflammatory disease and menstrual

irregularity.^[32-33] the menstrual cycle pattern may be irregular reported in about 10-40% of women with genital tuberculosis.^[22,34-36]

In our study most of female had Abnormal uterine bleeding (AUB)30.2 % and 69.76 % presented with Heavy menstrual bleeding (HMB); our findings are different to other that study showed 2.8% endometrial tuberculosis with menstrual abnormalities.^[22] Endometrial biopsy is integral part of standard criteria for evaluation of abnormal uterine bleeding.

Abnormal uterine bleeding especially heavy menstrual bleeding could be due to tuberculosis endometritis. Hence careful history and examination in combination with appropriate investigations are crucial for proper management of such patients.

Incidence of tuberculosis endometritis could be much higher in our country, as our patient belongs to low socioeconomic society and living in high prevalent area for tuberculosis, so we need large sample size to identify more accurate burden of disease. This is the limitation of our study.

ACKNOWLEDGMENT

We acknowledge all study participants who included in this study.

CONCLUSION

Diagnosis of endometrial tuberculosis in women with menstrual symptom on histopathology is small but significant. Female endometrial tuberculosis should be considered for exclusion if the patient presents with menstrual symptoms.

Conflict of interest: None.

Funding: none.

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