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Original Research Article

## Evaluation of puberty menorrhagia in tertiary care centre

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### ABSTRACT

**Background:** Puberty menorrhagia is real trouble among adolescent girls mostly due to problem in hypothalamic-pituitary-ovarian axis. The objective of the study was to evaluation of causes of puberty menorrhagia in tertiary care hospital.

**Methods:** Present study evaluates 60 adolescent girls of age group 11-19 years attending Gynaecology OPD/IPD with excessive Menstrual bleeding who conform to the Inclusion criteria were recruited for the study in the department of Obstetrics and Gynaecology of Deen Dayal Hospital Hari Nagar New Delhi over a period of 1 year (August 2018 to June 2019).

**Results:** Out of 60 patients with puberty menorrhagia 47 had anovulatory DUB, 6 had bleeding disorders, 4 had hypothyroidism and 3 had PCOD.

**Conclusions:** Anovulation caused by immaturity of hypothalamic-pituitary-ovarian axis is the most common cause of puberty menorrhagia.

**Keywords:** Puberty menorrhagia, Anovulation, Bleeding disorders, Hypothyroidism, PCOS

### INTRODUCTION

Puberty is defined as the period during which secondary sex characters begin to develop and the capability of sexual reproduction is attained. Although the mechanism triggering puberty, remain uncertain, certain are influencing the onset include genetics, nutrition and body weight and most importantly maturation of the hypothalamic- pituitary-ovarian axis.<sup>1</sup> abnormal bleeding accounts for approximately 50% of gynaecological visit in adolescent girls with complaints ranging from minimal spotting to heavy bleeding.<sup>2</sup> Puberty menorrhagia is defined as excessive bleeding in amount (>80 ml) or in duration (>7 days) between menarche and 19 years of age.<sup>4</sup> The common causes are anovulatory cycles, coagulation disorders, platelet function disorders, hypothyroidism, polycystic ovarian syndrome, genital tuberculosis and pelvic tumours.<sup>5,6</sup> In 80% of cases puberty menorrhagia is

caused by anovulatory cycles due to immaturity of hypothalamic-pituitary-ovarian axis.<sup>7</sup> tuberculosis are also important causes of puberty menorrhagia.<sup>5</sup> In all cases it coagulation disorders are prevalent in 1% of the general population and their incidence may be as high as 5% in the gynaecological population.<sup>8</sup> Other systemic diseases like polycystic ovarian disease, hypothyroidism and is mandatory to exclude pregnancy, especially an incomplete abortion or ectopic pregnancy.

### METHODS

The present study evaluates 60 adolescent girls of age group 11-19 years attending Gynaecology OPD/IPD with excessive menstrual bleeding who conform to the Inclusion criteria were recruited for the study in the Department of Obstetrics and Gynaecology of Deen Dayal

Hospital Hari Nagar New Delhi over a period of 1 year (August 2018 to June 2019).

#### Inclusion criteria

Following was the inclusion criteria for the study: all girls of age group 11-19 years with menorrhagia.

#### Exclusion criteria

Following was the exclusion criteria for the study: pregnancy.

#### Study designed

The study design was descriptive observational study.

#### Parameters of study

Detailed history, clinical examinations and investigations like Complete haemogram with peripheral blood smear, ESR, bleeding time, clotting time, prothrombin time, INR, USG whole abdomen and pelvis, chest X-ray (P. A. view), Montoux test, day 2 LH, FSH, Serum PROLACTIN, serum TSH.

The research procedure followed was in accordance with the approved ethical standards of Deen Dayal Upadhyay Hospital Harinagar New Delhi, India Ethics Committee (Human). Microsoft Excel was used in creating the database and producing graphs, while the data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 23 for Windows.

## RESULTS

This observational cohort study was done on 60 adolescent girls of aged between 11 to 19 years attending Gynaecology OPD/IPD of the hospital with excessive menstrual bleeding. Most 48.3% of them were between 14-16 years of age category followed by 30.0% of 17-19 years of age. The mean age of all girls was reported as 15.25±2.08 years.

**Table 1: Distribution of patients based on age.**

Age group (years)	Frequency (percentage)
11-13	13 (21.7%)
14-16	29 (48.3%)
17-19	18 (30.0%)
Mean±SD	15.25±2.08

Total 66.7% of girls reported as irregular menstrual cycle whereas 33.3% were regular. Only 10% had dysmenorrhea, and 81.7% of girls had a heavy flow of blood, and 61.3% had passing clots. Mean age of menarche was 12.6±1.65 years and mean PBAC score was 164.7±56.74 of all studied girls.

**Table 2: Presenting symptoms of study patient.**

Symptoms	Frequency (percentage)
Heavy menstrual bleeding (>80 ml by PBAC)	39 (65%)
Prolonged bleeding (duration >7 days)	50 (83.3%)
Spotting or bleeding between menstrual periods	37 (61%)

**Table 3: Causes of menorrhagia.**

Causes	Number	%
Anovulatory DUB	47	78.33
Bleeding disorders	6	10
Hypothyroidism	4	6.66
PCOD	3	5

## DISCUSSION

Puberty menorrhagia is defined as excessive bleeding occurring between menarche and 19 years of age.<sup>2</sup> Causes of abnormal uterine bleeding in the adolescent-anovulation, bleeding associated with pregnancy-abortion (threatened or incomplete), ectopic, retained products of conception, coagulation defects, congenital malformation of the uterus, endometriosis, hyperprolactinemia, infections- condyloma of the cervix/vagina, pelvic inflammatory disease, vaginitis/cervicitis (trichomonas/gonorrhoea), medications, ovarian failure, pathology involving the reproductive tract, systemic diseases and tumor.

In our study, the mean age of all girls was 15.25±2.08 years and 48.3% of them were in 14-16 years of age group, similar results were obtained by Rathod et al reported mean age of patients was 14.8±1.42 years, ranged from 12 to 17 years (Table 1).<sup>8</sup>

In this present study, all girls had menorrhagia and on the basis of menstrual history, a total 66.7% of girls reported irregular menstrual cycle whereas 33.3% had regular, 81.7% girls gave history of heavy flow of blood during menses and 61.3% girls reported passing clots, dysmenorrhoea was found in only 10% girls which is comparable to the study by Sebanti et al in which 68% of girls had irregular and 32% had regular, 75% girls had history of heavy blood flow and 50% passing clot (Table 2).<sup>9</sup>

Anovulatory DUB was the commonest cause (78.3%) in our study followed by bleeding disorders (10%), hypothyroidism (6.6%) and PCOD (5%) which are comparable to Korane et al in which 80% had anovulatory DUB, 8.5% bleeding disorder (ITP and Glanzmann thrombosthenia), 5.7% hypothyroidism and 5.7%

PCOD.<sup>10</sup> Similar results were observed by Gilani et al and Khosla et al (Table 3).<sup>11,12</sup>

### **Limitations**

Lack of control group, small sample size and single centric study. Duration of study was 1 year, if this study is conducted for a long duration then we may get the accurate prevalence of bleeding disorder in women presenting with menorrhagia.

### **CONCLUSION**

Menstrual problems are commonest reason for gynaecological OPD consultation among adolescent girls. Evaluation of bleeding problems in adolescents is justified, before considering them as normal physiological transition. Anovulatory DUB was the commonest cause (78.3%) in our study followed by bleeding disorders (10%), hypothyroidism (6.6%) and PCOD (5%).

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