

STUDY OF AETIOLOGICAL FACTORS OF PUBERTY MENORRHAGIA

Sayani Dolui¹, Gargi Mukherjee², Fakhra Masroor³, Jayshi Minj⁴, Pranab Kumar Biswas⁵,
Susanta Kumar Pain⁶, Sisir Kumar Chowdhury⁷

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ABSTRACT: CONTEXT AND AIM: The incidence and severity of puberty menorrhagia in a tertiary care hospital. **SETTINGS AND DESIGN:** This is an observational study conducted in Calcutta National Medical College. The patients suffering from formed the study population. **MATERIAL AND METHODS:** The study was conducted from February 2012 to January 2013. Total 65 girls formed the study population. They were examined clinically and relevant investigations done to confirm the diagnosis. Statistical analysis done accordingly. **RESULTS AND CONCLUSION:** Dysfunctional uterine bleeding was the commonest cause of puberty menorrhagia (42). Most common age group was between 11 to 13 years (32; 49.2%) and some degree of anemia was present in most of the girls. (Moderate anemia in 21; 50% of girls).

KEYWORDS: Puberty Menorrhagia, Dysfunctional Uterine Bleeding.

INTRODUCTION: Puberty and adolescence are regarded as junctional period between childhood and adulthood. During this period tremendous physiological, psychological and behavioral changes are observed in women. The term puberty refers to the whole period of time during which secondary sexual characters develop and the psycho sexual outlook of a human being changes. The main physical features of puberty are: breast growth, growth of axillary and pubic hairs, increase in height and menstruation. Menarche implies the functioning of hypothalamo-pituitary- ovarian axis. It is also dependent on several factors like genetics, nutrition, body weight. However this transition from childhood to puberche is not always smooth. The initial years of menstruation are frequently troubled by a number of ailments; a common problem often encountered is puberty menorrhagia. Puberty menorrhagia is defined as excess bleeding in amount (≥ 80 ml) or in duration (>7 days) or both between menarche and 19 years of age.⁽¹⁾ This study was conducted to assess the etiological factors of puberty menorrhagia in a tertiary care centre.

MATERIAL AND METHODS: This observational study was conducted in the out-patient clinic of Calcutta National Medical College from February 2012 to January 2013. The pubertal girls with the complaint of menorrhagia were enrolled in the study. Menorrhagia was diagnosed by using Highams pictorial blood assessment chart; a total point of more than 100 indicated menorrhagia.⁽²⁾

A detailed history was taken with special reference to sequential pubertal changes and menstrual history. Enquiries were made about menarche, menstrual interval, duration of bleeding, passage of clots, number of pads used daily. The medical history included history of recent weight gain or loss, voice changes, purpuric spots, gum bleeding, sternal tenderness etc. Personal history including the use of any drug were enquired. For unmarried girls, the delicate issues like sexual contact or abuse were asked separately. The married girls were asked about obstetrical events and use of any contraceptives.

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General examination was done with special reference to build, nutrition, pallor, purpuric spots, secondary sexual characters. Obese patients were examined for features of acanthosis nigricans and hyperandrogenism. Abdominal palpation was done to find out hepatosplenomegaly, ascites, abdomino pelvic mass. Gynecological examination included inspection of external genitalia; if the hymen appeared intact per vaginal examination was avoided, instead per rectal examination done to rule out any abdomino pelvis mass. Speculum and per vaginal examination were done for married girls.

Routine investigations in the form of complete blood count, bleeding time, clotting time, prothrombin time, activated partial thromboplastin time, hormonal assays like thyroid stimulating hormone, prolactin, follicle stimulating hormone, leutinising hormone, Day 21 progesterone and USG of whole abdomen were done in all the patients.

Selected patients required some special investigations like chest X-ray, menstrual blood TB PCR for the diagnosis of tuberculosis, bone marrow examination, serum ferritin and hemoglobin electrophoresis for diagnosis of hematological problem, examination under anaesthesia and laparoscopy for diagnosis of any pelvic mass.

RESULTS AND ANALYSIS: Among the patients who attended the OPD, 65 patients who had fulfilled the diagnostic criteria were included in the study.

AGE (IN YEARS)	FREQUENCY
11- 13	32(49.2%)
14- 16	21(32.3%)
17- 19	12(18.5%)
TOTAL	65(100%)

Table 1: Distribution of study population according to age

BODY MASS INDEX	FREQUENCY
UNDERWEIGHT (BMI < 18.5)	15(23.07%)
NORMAL (BMI 18.5- 24.9)	44(67.69%)
OVERWEIGHT (BMI 25- 30)	3(4.61%)
OBESE CLASS 1(BMI 30 – 35)	3(4.61%)
TOTAL	65 (100%)

Table 2: Distribution of study population according to body mass index

ANEMIA	FREQUENCY
MILD (Hb 11- 11.9gm%)	17(40.47%)
MODERATE (Hb 8-10.9gm%)	21(50%)
SEVERE (Hb <8gm%)	4(9.52%)
TOTAL	42(100%)

Table 3: Distribution of study population according to severity of anemia

DIAGNOSIS	FREQUENCY
DYSFUNCTIONAL UTERINE BLEEDING	42(64.61%)
IMMUNE THROMBOCYTOPENIC PURPURA	7(10.76%)
HYPOTHYROIDISM	6(9.23%)
POLYCYSTIC OVARIAN SYNDROME	4(6.15%)
BERNARD – SOULIER DISEASE	1(1.53%)
LEIOMYOMA	2(3.07%)
TUBERCULOSIS	1(1.53%)
INCOMPLETE ABORTION	2(3.07%)
TOTAL	65(100%)

Table 4: Distribution of study population according to etiology

Table 1 shows distribution of study population according to age. Majority of the patients (49.2%) were between 11 – 13 years of age. It appears this complication is more prevalent in early puberty.

Table 2 shows distribution of cases according to BMI. Though majority (67.69%) had normal BMI, a significant number were underweight (23.07%) and only 4.61% were obese.

Table 3 shows distribution of cases according to severity of anemia. Among the 65 patients, 42 (64.61%) were suffering from anemia Hb <1gm%). The anemia is moderate in severity in most of the cases (50%). Only 4 (9.52%) required urgent admission and blood transfusion because of severe pallor.

Table 4 describes the etiological factors of puberty menorrhagia. In 44(67.69%), no exact etiological factor could be elicited; they were described under the group of dysfunctional uterine bleeding. The second most common presentation was hematological disorders. Seven (10.76%) patients of ITP and one patient of Bernard Soulier syndrome, a rare case of defect of platelet aggregation, were diagnosed. Endocrine disorders like hypothyroidism (9.23%) and polycystic ovarian syndrome (6.15%) had also frequently presented with puberty menorrhagia. One patient with endometrial TB presented with atypical presentation of puberty menorrhagia. Two cases of leiomyoma and two cases of incomplete abortion also featured in our series.

DISCUSSION: Puberty menorrhagia is a relatively common complain of the adolescent age group. It has been observed that the inability to assess the amount of blood loss often leads to severe anemia and hospital admission and blood transfusion. Moreover lack of awareness can lead to unprotected sexual exposure as well as concealment of sexual abuse. The occurrence of such cases were not uncommon. It is important to treat these adolescent gynaecological patients with patience, sympathy and empathy.

In our study, the incidence of puberty menorrhagia is more prevalent between 11 to 13 years of age. The hypothalamo- pituitary – ovarian axis requires approximately two years to mature. Thus the initial years of menstruation is often irregular and is associated with menorrhagia requiring medical attention. A similar study by Roychowdhury et al found 47.7% patients were between 11 to 13 years of age.⁽³⁾

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Most of the patients had a normal BMI. a similar study by Sweta Singh et al had also found most of the girls had normal BMI.(57%).⁽⁴⁾ However it is to be noted a significant number suffered from some degree of malnutrition. Since our hospital caters mainly people from lower socio economic status, malnutrition is more prevalent than obesity.

Anemia was quite prevalent (64.62%). majority suffered from moderate anemia (50%) responding to hematinics only. Few (9.52%) required hospital admission and blood transfusion. In a study by Khosla et al among 18 patients requiring admission, 14 patients required blood transfusion for severe anemia.⁽⁵⁾ In our study all patients admitted required blood transfusion.

As shown in Table 4, majority cause of menorrhagia is due to dysfunction uterine bleeding (63.07%) secondary to anovulatory cycle. It has been observed that the timing of the LH pulses is crucial in establishing normal ovulatory cycles. The increase in basal LH as well as immature timing of pulses in early years of menarche results in anovulatory cycles A similar study by Saima Gillani et al showed 74.2% of puberty menorrhagia were due to DUB⁽⁶⁾. Another study by Khosla et al also showed similar results.⁽⁵⁾

The second most common diagnosis is coagulation disorder (13.85%) out of which majority suffered from ITP this finding is similar to the study conducted by Khosla et al.⁽⁵⁾ However it should be noted in western countries vWD is the commonest coagulation disorder which is not common in our country.

Hypothyroidism is the third most common cause in our list. According to CD Deifode the incidence of hypothyroidism in this age group is 11.67%.⁽⁷⁾ According to Rao et al.⁽¹⁾ the incidence is 5.7% whereas Douglas L Wilansky & Bernard ⁽⁸⁾ had observed an incidence of 22%

PCOD can be associated with irregular heavy bleeding. In our study 6.15% were diagnosed as PCOD. Rao et al.⁽¹⁾ had observed 2.8% of puberty menorrhagia was due to PCOD. However the incidence of PCO cases presenting as puberty menorrhagia is 25% according to Albert Altcheck.⁽⁹⁾ and 14% according to Shikha et al.⁽¹⁰⁾

Two cases of fibroid uterus and one case of genital tuberculosis causing puberty menorrhagia was also seen in our study. Although rare, uterine pathology like polyps and fibroids, may lead to abnormal bleeding.⁽¹¹⁾ The possibility of pregnancy complications like miscarriage must be excluded as a cause of abnormal uterine bleeding in adolescents.⁽¹¹⁾; in the present study, we encountered two such cases.

CONCLUSION: Puberty menorrhagia is a common problem encountered in the adolescent age group. We have observed in majority of cases the cause is dysfunctional anovulatory bleeding secondary to anovulation; endocrine disorders and bleeding diathesis were the other common causes. However the possibilities of pregnancy complications in this age group should always be kept in mind. A few atypical cases like tuberculosis, leiomyoma may also present with the feature of menorrhagia It is thus important to assess each case by thorough history, proper examination and investigation to reach the proper diagnosis.

REFERENCES:

1. Rao S, Pawar V, Badhwar VR, Fonseca MN. Medical intervention in puberty menorrhagia. Bombay Hospital Journal 2004; 46 (2).
2. Higham JM, O'Brien PM, Shaw RW: Assessment of menstrual blood loss using a pictorial chart. Br J Obstet Gynecol 97: 734, 1990.

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3. Roy chowdhury J et al. A study to evaluate The Etiological Factors and Management of Puberty Menorrhagia. Online Journal of Health and Allied Sciences. Vol 7 Issue 1(5).
4. Sweta Singh, Sangeeta Kansal, Alok Kumar. Assessment of Nutritional status of adolescent girls in rural area of district Varanasi. The Indian Journal of Research Anvikshiki. Vol 6 No 6, 2012.
5. Khosla AH, Devi L, Goel P, Saha PK. JNMA J Nepal Med Assoc 2010 Apr- Jun; 49 (178): 112- 6.
6. Saima Gillani, Syed Mohammad. Puberty Menorrhagia: causes and management. J Med Sci. Jan 2012; vol 20 no 1:15-18.
7. Doifode CD, Fernandes K. Study of thyroid dysfunction in patients with dysfunctional uterine bleeding. J Obstet Gynecol of India 2001 Mar-Apr; 51 (2):93-95.
8. Wilansky DL, Greism. an early Hypothyroidism in patients with menorrhagia. Am J Obstet Gynecol 1989; 160: 673.
9. Albert A. Dysfunctional Uterine Bleeding in Adolescence. Clin Obstet Gynecol 1977 Sep; 20(3): 633- 50
10. S Joshi, H Chella, D Shrivastava. Study of Puberty Menorrhagia in Adolescent Girl in a Rural Set up.10.5005/ jp-journals- 10006-1187.
11. Quint MD, Elisabeth H, Yolanda R, Smith MD. Abnormal Uterine Bleeding in Adolescents. J Midwifery Women's Health. 2003; 48 (3): 186-191.

AUTHORS:

1. Sayani Dolui
2. Gargi Mukherjee
3. Fakhra Masroor
4. Jayshi Minj
5. Pranab Kumar Biswas
6. Susanta Kumar Pain
7. Sisir Kumar Chowdhury

PARTICULARS OF CONTRIBUTORS:

1. Post Graduate Trainee, Department of Obstetrics and Gynaecology, Calcutta National Medical College, Kolkata.
2. RMO cum Clinical Tutor, Department of Obstetrics and Gynaecology, Calcutta National Medical College, Kolkata.
3. RMO cum Clinical Tutor, Department of Obstetrics and Gynaecology, Calcutta National Medical College, Kolkata.
4. Post Graduate Trainee, Department of Obstetrics and Gynaecology, Calcutta National Medical College, Kolkata.

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5. Professor, Department of Obstetrics and Gynaecology, Calcutta National Medical College, Kolkata.
6. Assistant Professor, Department of Obstetrics and Gynaecology, Calcutta National Medical College, Kolkata.
7. Post Graduate Trainee, Department of Obstetrics and Gynaecology, Calcutta National Medical College, Kolkata.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Gargi Mukherjee,
A-92, Brahmapur More,
Goria,
Kolkata-700096.
E-mail: gaargii@yahoo.co.in

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