ORIGINAL RESEARCH PAPER

Obstetrics & Gynecology

ETIOLOGY OF PUBERTY MENORRHAGIA - A PROSPECTIVE STUDY

KEY WORDS: Puberty ,Menorrhagia, causes

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ABSTRACT

OBJECTIVES: To determine the etiology of puberty menorrhagia.

MATERIALS AND METHOD: A total of 35 cases who attended OBG OPD at Shri SathyaSai Medical college from January 2019 – June 2019 who presented with chief complaints of irregular heavy menstrual bleeding since menarche were included in this study. After taking detailed history taking,physical examination, lab investigations,ultrasound etiology of puberty menorrhagia is ruled out.

RESULTS: Most common age group in our study are between 12 – 14 years (60%). 34.2 % attained menarche between 12 – 13yrs. Around 27 patient had duration of symptoms for less than 6 months, 6 had symptoms for about 6 – 12 months, 2 had for more than 1 year. Most common etiolgy in our study is PCOD (25.7%), anovulatory without PCOD (20 %), bleeding diathesis and thyroid disorder (17.1 %), pregnancy complication (8.5%), tuberculosis (5.7 %), fibroid and endometriosis (2.8 %).

CONCLUSION: Puberty menorrhagia needs to be evaluated in early stage rather than at later stage so that consequences of abnormal uterine bleeding can prevented.

INTRODUCTION:

Puberty is defined as the period of development of secondary sexual characters and the capability of sexual reproduction. The average age of menarche in India is 12.5 years.Puberty menorrhagia is defined as excessive bleeding in amount (>80ml) or in duration(>7days) between menarche and 19 years of age. In developing countries like India,almost a quarter of population

Consists of girls below 20 years. In India, 40% of population belongs to children under the age of 15 years. 75% of adolescent females are affected by menstrual disorders and a leading reason to visit physicians. [1]

Five main physical features of puberty: breast growth, pubic hair growth, axillary hair growth, increase in height and menstruation. The onset of menstruation is influenced by a number of factors: genetics, nutrition, body weight and maturation of the hypothalamic pituitary ovarian axis. The onset of menstruation does not mean that

ovulation has occurred; In the majority early menstrual cycles are anovulatory. The cycle length varies for some considerable years after menarche. It may take some 5-8 years before menstrual cycle normality is established. During this time it is common for adolescents to present with menstrual irregularities. Young girls with blood coagulopathy are at a high risk of abnormal bleeding with the onset of menarche. Bleeding is usually heavy, causing anaemia and may require blood transfusion. Among the inherited bleeding disorders platelet defects are the most common causes of puberty menorrhagia. Adolescents with gynaecological problems require a degree of privacy and sensitive handling, as many of the

gynaecological problems encountered relate to intimate body functions at a time when the individual is maturing sexually and having to deal with issues that are embarrassing and may be considered taboo [2]

Adolescents with gynecological problems require reassurance, sensitive handling and advice regarding diet and life style modification.[3]

Menorrhagia has a significant effect on the adolescent quality of life, daily school activity, and peer relationship. Many adolescents come late to gynecologists making them more vulnerable to complications such as severe anemia and hypoproteinemia. In all cases of puberty menorrhagia, it is important to exclude pregnancy, especially incomplete abortion and ectopic pregnancy.[4]

MATERIALS AND METHODS:

A total of 35 cases who attended OBG OPD at Shri SathyaSai Medical college from January 2019 – June 2019 who presented with chief complaints of irregular heavy menstrual bleeding since menarche were included in this study. A detailed history were taken which includes age of the patient, menstrual history, severity and duration of symptoms, age of menarche, medical history includes recent change in weight,history suggestive of tuberculosis, thyroid disorder, and hematological disorders was taken. The family history regarding tuberculosis, thyroid disorder and bleeding diathesis noted. Previous menstrual history noted. History of any chronic drug intake noted.

Examination includes –record height,weight,BMI, pallor, gum bleeding, thyroid swelling. Vitals recorded. Skin examination done to look for any purpuric spots, , hirsutism ,acne and hyperandrogenic features. All baseline investigations done including pelvic ultrasound for uterine and ovarian morphology. Special investigation such as Urine pregnancy test, luteinizing hormone/follicle-stimulating hormone (LH/FSH), Von Willebrand factor activity and Ristocetin cofactor assay were done in selected patients. Management done depending on the etiology identified.

RESULTS:

Most common age group in our study are between 12 – 14 years (60%). 22.8 % are between 12-13 yrs, 17.1 % between 17 – 19 yrs.

Table 1: Age of the patient

Age of the patient	No of patient	percentage
12 – 13 yrs	8	22.8 %
14 – 16 yrs	21	60%
17 – 19 yrs	6	17.1%

From table 2 it is found that 34.2 % attained menarche between 12 – 13yrs, 28 % more than 13 years, 20% between 11- 12 yrs, 14.2 % between 10 -11 yrs, 2.8 % less than 10 years.

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Table 2: Age of Menarche

10 – 11yrs	14.2% (5)
11 – 12 yrs	20% (7)
12 – 13 yrs	34.2% (12)
>13 yrs	28% (10)
Age of menarche	Percentage &Number of patients
< 10 yrs	2.8 % (1)

From table 3, around 27 patient had duration of symptoms for less than 6 months, 6 had symptoms for about 6 – 12 months, 2 had for more than 1 year.

Table 3: Duration of symptoms

Duration of symptoms	No of patients (%)
< 6 months	27 (77.1 %)
6 months – 12 months	6 (17.1 %)
>1 year	2 (5.7 %)

TABLE 4: ETIOLOGY OF PUBERTY MENORRHAGIA

Etiology	Number of patient (%)
PCOD	9 (25.7%)
ANOVULATORY WITHOUT PCOD	7 (20%)
BLEEDING DIATHESIS	6 (17.1%)
THYROID DISORDER	6(17.1%)
TUBERCULOSIS	2 (5.7%)
PREGNANCY COMPLICATION	3 (8.5%)
FIBROID	1 (2.8%)
ENDOMETRIOSIS	1 (2.8%)

From table 4, most common etiolgy in our study is PCOD (25.7%), anovulatory without PCOD (20 %), bleeding diathesis and thyroid disorder (17.1 %), pregnancy complication (8.5%),tuberculosis (5.7 %), fibroid and endometriosis (2.8 %)

DISCUSSION:

In Adolescent age group the hallmark event in life is Menarche and accounts for about 50 % of gynaecological visit due to puberty menorrhagia. [4]

In India the average age of menarche is 12.5 years ,where 34.2 % attained menarche between 12-13 years in our study. 60 % belongs to the age group of 14 – 16 years which is similar to study conducted by Ratan Chandra Mandal et al where 42 % belongs to the age group of 13 – 16 years. [5]

Events that happens during puberty includes increase in amplitude and frequency of GnRH Which initiates and regulates pituitary gonadotropins secretion. Anovulatory cycles occurs due to immature hypothalamic pituitary ovarian axis ,irregular LH pulse,increase in LH basal levels resulting in anovulatory cycles where FSH and LH levels are sufficient to develop follicles and estrogen secretion but inadequate to cause follicular maturation and ovulation. Irregular shedding occurs due to endometrial growth due to unopposed estrogen action. The ratio of prostaglandin F2 alpha: PGE2 is 2:1, Where in anovulatory cycles the ratio is decreased due to lack of progesterone resulting in painless anovulatoty cycles. [4]

In our study, 25.7% is contributed by anovulation due to pcos and 20% by anovulation other than PCOS.

Polycystic ovarian syndrome(PCOS) causes hyperandro genism and chronic anovulation in women without any adrenal or pituitary disorder and one of the most common endocrine disorder. [1]

A study conducted by Kamuran Karaman et al on Evaluation of the Hemostatic Disorders in Adolescent Girls with Menorrhagia found Bleeding disorder leading to adolescent menorrhagia is about 22 %. [6] .In our study bleeding diathesis accounts for about 17.1%.

Second most common disorder causing menorrhagia is bleeding disorder in which 1 % of population are affected by Von Willebrand disease due to factor VIII deficiency. Idiopathic thrombocytopenic purpura , aplastic anemia, leukemia causes thrombocytopenia. Recent literature reports that about 10.4% of teenage menorrhagia is due to inherited bleeding disorders. Infectious mononucleosis, acute toxoplasmosis, CMV infections, viral hepatitis, and HIV causes immunological thrombocytopenia. [7]

Evaluation And Management of puberty menorrhagia by A. Shanti Sri, Ayesha Jehan three patient had hypothyroidism and four had tuberculosis as a cause of puberty menorrhagia, whereas in our study 6 patients had hypothyroidism and 2 patient had tuberculosis. [3]

Hypothyroidism is associated with menorrhagia. It is probably due to estrogen break through bleeding secondary to anovulation. Defects in haemostasis has been demon str ated due to decreased levels of factor VII, VIII. IX and XI [1]

Gynecological Problems of Adolescent Girls Attending Outpatient Department at Tertiary Care Center with Evaluation of Cases of Puberty Menorrhagia Requiring Hospitalization conducted by Archana D. Rathod et al found 5 (0.7 %) had teenage pregnancy whereas in our study 3 patients are found to be pregnant. [7]

Pregnancy complications like miscarriage must be excluded as a cause of abnormal uterine bleeding in adolescents. [1]

CONCLUSION:

Puberty menorrhagia needs to be evaluated in early stage rather than at later stage so that consequences of abnormal uterine bleeding can prevented. School health programme regarding the use of menstrual calender helps to create awareness about early diagnosis and treatment. Avoidance of junk foods,yoga,physical activity must be encouraged in these young girls to avoid PCOS. Congenital bleeding disorder is suspected when there is history of nasal or gingival bleeding. Evaluation of puberty menorrhagia should be taken as an multidisciplinary approach consulting both pediatric haematologist and gynaecologist. Once a proper diagnosis is made, counseling of the patient and her parents, follow up and long term therapy in some cases is required.

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