

Disturbances of Menstruation in adolescent girl

Pratap Kumar, Siya S. Sharma.

Dept. of Obstetrics & Gynaecology, Kasturba Medical College & Hospital, Manipal - 576 119, India.

Summary : Adolescent girls make 10%-20% of female population and have various menstrual disturbances in 75% patients. "Understanding, friendliness and personality" are the expectations of the adolescents from doctors. Dysmenorrhoea is the most common complaint in adolescents having menstrual disorders. In 5-10% of adolescent girls it is severe in nature, incapacitating them. After the onset of menarch, about 45% adolescent girls have no ovulation for 1 to 2 years, leading to irregular cycles which are of two types namely, oligomenorrhoea & polymenorrhoea. The most common cause of oligomenorrhoea is emotional stress which may result in the suppression of hypothalamic or pituitary functions. Polymenorrhoea is a less common complaint in this group. Anovulation is the common cause for menorrhagia in adolescents. Anaemia may develop with menorrhagia of long duration. In adolescents, DUB causes menorrhagia in 74%, primary coagulation disorders are present in 19% and other causes account for 7%. Explanation and reassurance is the back bone of therapy in adolescent girls with menstrual disorders. Also, they should be told that these are not going to affect their fertility in the future. Prostaglandin synthetase inhibitors & oral contraceptive pills are effective for the symptomatic relief in dysmenorrhoea. Hormonal therapy is indicated in certain patients of menorrhagia.

Introduction

Teenage or adolescent girls who make 10% of total population (Sheil & Turner, 1996), and 20% of female population (Adolescent population, projection, 1996) have a wide spectrum of gynaecological problems. Menstrual disturbances in adolescents are among the commonest presenting gynaecological complaints (75%) all over the world (Sheil & Turner, 1996).

Adolescence being the tender age of transformation of a carefree child to a responsible adult, all the problems should be dealt with carefully keeping in mind emotional and psychological factors. These girls of adolescent age are often shy and embarrassed to discuss such personal aspects of life. To achieve healthy reproductive life in future, these adolescents are encouraged to visit their doctors for such problems. "Understanding, friendliness and personality" are the expectations of the adolescents from their attending doctors who should have patience (Sternlib & Munan, 1972). Adolescent gynaecological clinics are the main stay of their problems, where they are treated with respect, honesty and confidentiality, along with social and psychological support.

Types of menstrual disorders

1. Dysmenorrhoea
2. Irregular menstrual cycles
 - a. Oligomenorrhoea
 - b. Polymenorrhoea
3. Menorrhagia

1. Dysmenorrhoea

Dysmenorrhoea is the most common complaint in adolescents having menstrual disorders. In 5-10% of adolescent girls it is severe in nature incapacitating them to the extent of not attending their school, college or work (Sheil & Turner, 1996). This kind of dysmenorrhoea may lead to fear psychosis in adolescents (Dickens 1974). Twenty percent of these adolescents have family history of dysmenorrhoea either in mothers or sisters (Sheil & Turner, 1996).

Types of dysmenorrhoea

a). Primary, b). Secondary. These two types could be differentiated in adolescents as follows :

Features	Primary	Secondary
1. Onset.	First day of menses	Prior to menses
2. Duration	12-24 hours	Throughout the menses
3. Ovulation	Present	May be absent
4. Pathology	Usually absent	Uterine/pelvic pathology present
5. Aetiology	Increased PGE2 & PGF2 α	Congestion
6. Prevalence	Most common	Less common
7. Severe	In 5-10%	Not so severe

Evaluation of the patient

Complete history is the most important aspect of the management of such cases and it should include the details of menses and associated problems. Differentiation should be done to type the dysmenorrhoea. Any past history of renal problems in childhood or in family should be looked for. A thorough general, physical, local, perineal and rectal examination should be carried out.

Ultrasonography is an important tool to diagnose the uterine anomalies or some associated uterine or pelvic pathology. Hysteroscopy and/or laparoscopy is reserved for those girls who are not responding to medical therapy specially in secondary type of dysmenorrhoea due to endometriosis or some pathology. Diagnostic dilatation and curettage is no more required (Sheil & Turner, 1993).

Though genital tuberculosis is not a common occurrence specially in the developed world but in developing countries like ours, this disease is still existing. The spread of TB from a primary focus to genital organs takes place at a very early stage of the disease in a subtle manner without causing any menstrual problem in the beginning.

The clinical picture of genital tuberculosis is presented few years later. In 50% of these girls menstruation is normal while 40% girls may have menorrhagia and 10% will show secondary amenorrhoea after a period of oligomenorrhoea (Padubidri & Daftary, 1994). Primary amenorrhoea is rare due to genital tuberculosis.

Treatment

1. Explanation and reassurance is the backbone of therapy in adolescent girls with dysmenorrhoea. All efforts are made to eliminate misinformation and ignorance about the menstrual problems (Johnson, 1988).
2. Prostaglandin synthetase inhibitors (PGSI) mefenamic acid, & naproxane sodium, should be started premenstrually in cases of primary dysmenorrhoea and it relieves the pain in about 70% patients (Sheil & Turner 1996).
3. Oral contraceptive pills (OCPs) are prescribed to achieve symptomatic relief for those girls who are not responding to analgesics and those who need contraception (Milsom et al, 1990 & Robinson et al 1992).
4. Some girls may not respond to PGSI and OCPs and in these patients ultrasonography should be done to reevaluate the uterus and adnexa. Surgical laparoscopy may be of some use only in those adolescents who have endometriosis, incidentally a commonest pathology found in this group.

2. Irregular menstrual Cycles

Whenever there is ovulation, usually cycles are regular. After the onset of menarche, about 45% adolescent girls have no ovulation for 1 to 2 years (Sheil & Turner, 1996). And this leads to irregular cycles which is a cause for concern for the young girl and her parents as well.

Types of irregular cycles

Irregular cycles are of two types as mentioned below :

- a. Oligomenorrhoea
- b. Polymenorrhoea

Oligomenorrhoea

Infrequent ovulation is a common and physiological finding shortly after the menarchae, and it leads to oligomenorrhoea. Within one year of menarchae this type of oligomenorrhoea is a normal phenomenon. But oligomenorrhoea with the history of previous regular cycles is an abnormal condition and it requires a detailed evaluation for the same.

Causes of Oligomenorrhoea

1. Emotional stress : The most common cause of oligomenorrhoea is emotional stress which may result in the suppression of hypothalamic or pituitary functions and leads to oligomenorrhoea.

Less common causes are

2. Acute weight loss
3. Excessive exercise
4. Anorexia nervosa
5. Recent discontinuation of OCPs

Rare causes of oligomenorrhoea are

6. Pituitary adenomas
7. Abnormal thyroid function
8. Ovarian pathology such as polycystic ovarian syndrome (PCOS) which may be associated with obesity and hirsutism. Some ovarian tumors which produce androgens are associated with oligomenorrhoea and virilising changes.
9. Adrenal pathology includes congenital adrenal hyperplasia or Cushing's syndrome.

Treatment of Oligomenorrhoea

1. Reassurance :

These adolescents should be explained that the problems are usually self-limiting. Also, that these are not going to affect their fertility in the future. In few cases even it has affected the fertility then ovulation induction could be used to enhance the fertility.

2. Hypothalamic or pituitary suppression:

Adolescents with the history of emotional or physical factors such as weight loss, require the treatment of the cause. No drugs should be used for menstrual regularisation.

3. Hyperprolactinemia:

Bromocriptine is helpful in rapid return of menses if there is no neurological cause for this. In very few cases neurosurgical treatment is required.

4. PCOS:

Therapy in this group is proportional to the severity of the disease. Cycle regularisation could be achieved by oral contraceptive pills. If it is associated with hirsutism, cyproterane acetate should be given. But the girls should be cautioned that the complete results are achieved only in 6 months to 2 years.

b. Polymenorrhoea

Polymenorrhoea is the less common complaint in this age group. Usually it is caused by luteal phase dysfunctions (LPD). Adolescents with such problems are treated well with progesterone support in luteal phase. Oral contraceptive pills are also used to regularize the cycles.

3. Menorrhagia

Excessive menstrual bleeding could be due to increased amount, duration or both. It is frightening for young girls and parents as well, specially for mother. Anovulation is the common cause for menorrhagia, specially in adolescents. This kind of menorrhagia is classified as dysfunctional uterine bleeding (DUB) and is recurrent till regular ovulation and cycles are established. Anaemia may develop with menorrhagia of long duration and it varies from mild to severe form. This kind of excessive menstrual bleeding should be differentiated from bleeding disorder, blood dyscrasia and rarely, genital malignancies. Genital tuberculosis may cause excessive menstrual bleeding in the beginning of the disease process. Cervical polyp and granulosa cell tumor of the ovary may also cause menorrhagia. In adolescents, DUB causes menorrhagia in 74%, while primary coagulation disorders

are present in 19% of the patients while in 7% adolescents other causes are responsible (Claessens & Cowell, 1981).

Investigations

Complete haemogram, coagulation profile, and ultrasonography of the pelvis are the useful parameters, apart from menstrual history, to pinpoint the diagnosis of menorrhagia. Endocrinological status of these young girls is of little value.

Treatment

1. Reassurance and explanation that normal and regular cycles will be restored in few months. And to most of the girls this is the only therapy required.

2. Hormonal Therapy . There are certain indications for this therapy as follow:

- a. Anaemia
- b. Recurrence
- c. Restricted routine activity.

Commonly, progesterone is advisable since it regularises the cycles and prevents endometrial hyperplasia. In few cases where there is breakthrough bleeding with progesterone, combined oral contraceptive pills are beneficial. But cautious approach should be practiced with this type of therapy since the prolonged use of these hormones may result in amenorrhoea.

3. Diagnostic curettage (Sheil & Turner 1996) is rarely indicated in nonresponders to hormonal therapy. If endometrial hyperplasia is seen then she is put on progesterone for the period of 6-12 months, after which she is re-evaluated.

4. Anaemia is corrected with iron supplementation and high protein diet and if required blood transfusion is suggested.
5. Acute bleeding is stopped by 5-10 mg of norethisterone or medroxyprogesterone, orally. Later cyclical progesterone therapy is recommended
6. Acute and severe bleeding could be controlled by conjugated oestrogen in the dose of 25 mg, with intravenous administration and it is repeated after 3 hours if necessary up to 3 doses (Devore et al, 1992).

References :

1. Adolescent population projection India-1996, (1991-2001), Child in India - A statistical profile, Govt. of India, Ministry of welfare-1985.
2. Claessens EA, Cowell CA. Am J Obs gyn, 139:277, 1981.
3. Devore GR, Owens O, Kane N. Obstet Gynecol, 69:285, 1992.
4. Dickens A. Clin Obstet Gynaecol, 17:655, 1974.
5. Johnson J. J Adolesc Health Care, 9:398, 1988.
6. Milsom I, Sundell G, Andresch B. Contraception, 42:497, 1990.
7. Padubidri V, Daftary SN (Eds): Howkins and Bourne Shaw's Text Book of Gynaecology, 11th Ed (1994) & 155, BI Churchil Livingstone Pvt. Ltd., New Delhi, India.
8. Robinson JC, Plichta S, Weismen CS, Nathasan CA, Ensminger M. Am J Obst Gyn, 166:578, 1992.
9. Sheil O, Turner MJ. Br Med J, 306:719, 1993.
10. Sheil O, Turner M. Progress in Obstetrics & Gynaecology, Vol. 12, 1996, 215. (ed. John Studd) Churchil Livingston, London. UK
11. Sternlieb JJ, Munan L. Paediatrics, 49:177, 1972.