UNIT NO. 6A

GYNAECOLOGICAL ISSUES IN THE ADOLESCENT FEMALE

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ABSTRACT

This article covers gynaecological issues which are faced by adolescent females. The issues include delayed puberty, precocious puberty, irregular periods, polycystic ovarian disease, dysmenorrheal, and contraception in teenagers.

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NORMAL PUBERTY

First sign of puberty is breast development. The average age of onset of breast development is ten years of age. It maybe as early as eight years or as late as 13 years. Menarche occurs about two to three years after the onset of breast development.

DELAYED PUBERTY

Definition

- Absence of secondary sexual characteristics, i.e. breast development, by age 14.
- Absence of menarche by age 16 in the presence of normal secondary sexual characteristics.

Causes

Disorders of the hypothalamo-pituitary ovarian axis, e.g.

- Tumours of the hypothalamus.
- Eating disorders.
- Chronic illness.
- Kallman's syndrome.
- Tumours of the pituitary.
- Ovarian failure (Turner's Syndrome).

End organ failures (usually have normal 2° sexual characteristics)

- Absent uterus.
- Absent vagina.

Constitutional delays

- Diagnosis of exclusion.
- Family history of delayed menarche.

PRECOCIOUS PUBERTY

Definition

Breast development before age 8 or onset of periods before age 10.

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Causes

Central Precocious puberty

- Trigger mechanism in hypothalamus, for onset of puberty, switched on too early.
- Idiopathic in more than 90% of cases, rarely due to intracranial lesions.

Pseudo precocious puberty

- HPO axis not involved.
- Due to hormone producing tumours of the ovaries or adrenals.
- Iatrogenic-prolonged exposure to estrogen creams used to treat labial adhesions.

Problems

May cause premature closure of the epiphyseal ends of the long bones, leading to reduction in the final height.

Management

Reassure parents if the patient falls within the normal range stated. The patient with delayed or precocious puberty is best evaluated and managed at a tertiary hospital.

IRREGULAR PERIODS

Irregular periods is a non-specific term that can be applied to both oligo-amenorrhea (infrequent periods) and polymenorrhea (prolonged frequent periods). While the clinical presentation for both these conditions is very different, the underlying etiology is the same: anovulation. It is a well known fact that anovulation is common in women in the extremes of the reproductive age group, i.e. soon after menarche and women approaching menopause.

In teenagers, delayed maturation of the hypothalamo-pituitary axis is the main underlying pathology. However, in a significant minority it may be caused by polycystic ovarian syndrome, hyperprolactinemia, thyroid dysfunction, eating disorders, or even a bleeding disorder. So, when does one decide to intervene and treat a teenager with irregular periods?

What is normal?

- Irregular periods in the first two years after are fairly common due to the immature HPO axis.
- This gradually settles into the adult monthly pattern by age 19.
- As occasional episode of irregular period may be induced by stress, e.g. examinations.

What is abnormal?

- Oligoamenorrhea with intervals of up to six months between periods in the early teens.
- Peristent oligoamenorrhea into the late teens.
- Persistent polymenorrhea at any age giving rise to significant anemia.

Management

Oligo-amenorrhea

a. The patient should be advised to maintain her body weight close to her ideal body weight for height.
b. If patient is an athlete, she should be advised to cut down on physical training.
c. A 12-day course of progesterone, e.g. medroxy-progesterone acetate 5 mg om can be given every month to induce a withdrawal bleed.
d. If she has prolonged periods of amenorrhea in her early teens/persistent oligoamenorrhea in her late teens, an endocrine cause should be excluded. Check FSH, LH, Prolactin and TSH levels. sPerform an Ultrasound scan of the uterus to look for evidence of polycystic ovaries.

Polymenorrhea

a. The patient should be advised to maintain a healthy body weight.
b. FSH, LH, Prolactin and TSH levels should be checked to exclude an endocrine cause.
c. Cycle control can be obtained with cyclical progesterone given for 21 days with a seven-day pill free interval or with a low dose oral contraceptive preparation.

Prognosis

About 5% of teenagers with irregular periods will continue to have this problem into adult life. The majority of these patients will have polycystic ovarian disease.

POLYCYSTIC OVARIAN DISEASE (PCOD)

This is a syndrome manifested by variable combinations of menstrual irregularity, hirsutism/acne and obesity. It is the most common endocrine cause of anovulatory infertility as well as a major risk factor for development of type 2 diabetes mellitus. It is also a risk factor for developing cardiovascular disease and endometrial carcinoma in adulthood.

PCOD is a very heterogeneous condition with patients presenting with different symptoms. It arises as a complex trait, with both heritable as well as non-heritable factors. Identifying girls at risk for PCOD may be an effective means of preventing the long term complications of this syndrome.

Diagnosis

Rotterdam diagnostic criteria (2003) for PCOD

Presence of two out of the following three criteria after exclusion of other causes of hyperandrogenism.

- Oligo or anovulation.
- Clinical and/or biochemical signs of hyperandrogenism (clinical signs are acne, hirsutism, male pattern alopecia).
- Ultrasonographic evidence of polycystic ovaries.

Management

Irregular periods

- Managed as outlined above with cyclical progesterone.
- This helps reduce the risk of endometrial carcinoma.

Hyperandrogenism (hirsutism, acne, alopecia)

- Shaving, waxing, electrolysis, laser hair removal.
- Topical treatment of acne.
- Oral contraceptive pills reduce androgens by inhibiting ovarian function as well as increasing sex hormone binding globulins.
- It improves acne within three months, prevents progression of hirsutism and reduces shaving frequency.
- However, OCPs are generally not well accepted by Asians. The high estrogen content will bring growth to an end in peri-menarcheal girls, making it an unsuitable choice for girls within the first two years of menarche. In some, it may compound the problem of weight gain.

Obesity

- Girls should be encouraged to take a healthy diet and exercise regularly to try and maintain an ideal weight. This would be the most important measure in preventing the long term complications of PCOD.
- Weight loss has been shown to reduce hyperandrogenism as well improve ovulation.

DYSMENORRHEA

Dysmenorrhea is common in adolescents. It is known as primary dysmenorrhea. It is thought to be due to the effect of prostaglandins on the myometrium, causing myometrial contractions, which are felt as cramps. Prostaglandins are produced in ovulatory cycles, therefore anovulatory cycles are generally painless.

Treatment

Treatment with paracetamol is usually sufficient. If this fails, NSAIDS can be tried. In the small group of patients where NSAIDs are ineffective, cyclical OC pills can be tried. OC pills give relief by inhibiting ovulation and therefore, reducing the amount of prostaglandins. In very rare cases, severe dysmenorrhea can be the result of uterine malformations. This group of patients will not respond to medical treatment. An ultrasound scan of the pelvis will help confirm the diagnosis and treatment will be surgery.

CONTRACEPTION IN THE TEENAGER

While many consider this a taboo subject, the rising incidence of STDs in teenagers tells us otherwise. Most teenagers, though aware of contraceptive methods, fail to use it. The most popular method among teenagers unprepared for contraception is the withdrawal method. This has been reported to have a failure rate of up to 40%.

Teenagers who are sexually active should be encouraged to use barrier methods such as condoms. This not only prevents pregnancies, but also STDs. Even older teenagers who wish to be on the pill should be encouraged to use the condom to protect themselves against STDs.

For teenagers who have had unprotected sex over the last 72 hours, **emergency contraception** should be given. This can be either:

- **Postinor** (750 mcg of levonogestral). First dose given within 72 hours of intercourse and the second dose 12 hours later;
- **Yuzpe regime.** Four tablets of a standard OCP containing 35 mcg of ethinylestradiol, taken within 72 hours of intercourse and repeated 12 hours later;
- Both bring about a 75% reduction in pregnancy rates.

LEARNING POINTS

- **Precocious puberty may cause premature closure of the epiphyseal ends of the long bones, leading to reduction in the final height.**
- **Delayed maturation of the hypothalamo-pituitary axis is the main underlying pathology of irregular period in teenagers.**
- **The majority of adult patients who have irregular periods since they were teenagers will have polycystic ovarian disease.**
- **PCOD is a risk factor for development of type 2 diabetes mellitus and for developing cardiovascular disease and endometrial carcinoma in adulthood.**
- **In dysmenorrhea, treatment with paracetamol is usually sufficient. In very rare cases, severe dysmenorrhea can be the result of uterine malformations; for these cases, the treatment will be surgery.**