Gynaecology – Dr. Sallama – Lecture 2 – Problems During Adolescence

Problems during Adolescence:
The adolescent gynaecological patient usually presents with one of three disorders.
- First, there are those problems associated with the menstrual cycle and menstrual dysfunction, dysmenorrhoea and premenstrual syndrome are the main group of disorders.
- Second, the patient may present with primary amenorrhoea.
- Third, is the problem of teenage hirsutism.

Heavy menstruation
- Normal menstrual loss should not exceed 80 ml during a period, although in 5% of individuals it is heavier than this and causes no trouble.
- The clinician is faced in these circumstances with attempting to assess whether or not the child truly has menstrual loss that is serious as a medical condition or menstrual loss that is irritating and distressing without being medically harmful.
- The best way to establish which of these is the case is to measure the haemoglobin.
- If the haemoglobin level is normal, that is, greater than 12 g/l, then an explanation should be given to the mother and child of the normal physiology of menstrual establishment that the manifestation of the menstrual loss is normal and that it may take some time for the cycle to be established.
- This condition requires no active treatment.
- However, it is imperative that the girl is followed up at 6-monthly intervals until the pattern of menstruation is established as reassurance is the most important part of the management process of these girls.
- In those girls with haemoglobin levels between 10 and 12 g/l it is apparent that they are losing more blood at menstruation than is desirable.
- Again, an explanation is required so that the mother and daughter understand the cause of the problem and the girl should be administered iron therapy to correct what will be mild iron deficiency anaemia.

In terms of management, menstrual loss needs to be reduced and this may be achieved by using either progestogens cyclically for 21 days in every 28-day cycle or to use the combined oral contraceptive pill.
- Finally, in the girl with a haemoglobin level of less than 10 g/l, it is obvious that serious anaemia has resulted from menstrual loss.
- This again requires an explanation but more urgent attention from a medical point of view.
- Progestogens are very much less likely to be effective in this group and the oral contraceptive pill is by far the treatment of choice.
- It may be given continuously for a short period of time so that the anaemia can be corrected using oral iron and then the pill may be used in the normal way so that menstrual loss occurs monthly, if desired.

Primary dysmenorrhoea:
- Primary dysmenorrhoea is defined as pain which begins in association with menstrual bleeding.
- The management of dysmenorrhoea in the teenager is no different from that of the adult.
- Both the use of non-steroidal anti-inflammatory drugs and the oral contraceptive pill is pertinent in teenagers,
- but again failure of these medications to control dysmenorrhoea should alert the clinician to the possibility of uterine anomaly and ultrasound imaging of the uterus should be performed to establish whether or not an anomaly exists.

**Premenstrual syndrome**

- This is a difficult problem in adolescence as the psychological changes that are occurring during this time of a woman’s life are often complex and stressful.
- It is established that premenstrual syndrome is a stress-related disorder.
- Therefore in teenage girls undergoing puberty the stresses and emotional turbulence that are associated with this, not surprisingly, may lead to premenstrual problems.
- These are very difficult to manage and are usually not medically treated but addressed through the help of psychologists if reassurance from the gynaecologist and an understanding of the process to the mother is not successful.

**Hirsutism**

Causes of hirsutism in adolescents

1. Androgenic causes
   - Congenital adrenal hyperplasia
     - Classic
     - Late onset
   - Androgen-secreting tumours

2. Polycystic ovarian syndrome

3. Idiopathic

4. XY gonadal dysgenesis

- Treatments for hirsutism are as in the adult.
- In adolescence the mainstay of androgen excess treatment has been the oral contraceptive pill and without doubt this remains the main form of treatment.
- As the majority of these girls have some ovarian dysfunction, be that polycystic ovarian syndrome or an undefined problem, suppression of ovarian activity is very effective at circulating androgen.
- If this is insufficient to gain control of hair growth, then the use of cyproterone acetate or spironolactone may be considered.

**Delayed puberty**

- This occur when there are no signs of secondary sexual characteristics by the age of 14 years.
- Delayed puberty is rare with only 2.5% of females not having had menarche by the age of 18.
- It is due to either a central defect (hypogonadotrophic hypogonadism) FSH is low.
- Or to a failure of gonadal function (hypergonadotrophic hypogonadism) , FSH is high.
Causes of delayed puberty

1- Hypergonadotropic hypogonadism. (FSH level high)

In this situation the gonad does not function despite a high level of FSH.

- In girls with hypergonadotropic hypogonadism (high FSH level) the ovarian failure may be associated with
  - An abnormal karyotype, particularly Turner’s syndrome xo 45.
  - A normal karyotype it may be that there is gonadal dysgenesis (the external genitalia are usually of infantile female type).
  - The resistant ovary syndrome with normal appearance of external genitalia (this may be an autoimmune disease). Premature ovarian failure can occur at any age and may be idiopathic, but can be a part of an autoimmune disorder or following chemo or radiotherapy for childhood cancer.

2- Hypogonadotropic hypogonadism in (FSH level low).

- This may be constitutional, but other causes must be excluded.
  - These include anorexia nervosa, excessive exercise and chronic medical illness, such as diabetes or renal failure. Rarer causes include a pituitary tumour and kalman syndrome.

3- The eugonadotropic group (normal LH and FSH)

- This is in girls with primary amenorrhea but normal secondary sexual characteristics
  - Here congenital absence of the uterus (Rokitansky syndrome), vaginal septum or imperforate hymen should be considered.

Treatment of delayed puberty

Initial management

- Ask about chronic illnesses, anorexia, excessive physical exercise or family history of delayed puberty.
- Heart problems may be found with chromosomal disorders, urinary or bowel disorders with anatomical disorders of the genital tract.
- Hernia repairs may suggest gonadal disorder and slow general development is associated with hypothyroidism.
- Examination should include measurement of height, weight and visual fields; check for secondary sexual characteristics, virilization and hirsutism.
- Vaginal examination is inappropriate.
- Check for stigmata of Turner’s syndrome (short stature, webbed neck, and wide carrying angle).

Investigations:

- Sending serum for LH and FSH (low with constitutional delay), testosterone (increased in polycystic ovarian syndrome), free T4, TSH (increased in primary hypothyroidism) and prolactin (ideally measured under non-stressed conditions).
- Karyotype is needed if a chromosomal problem is suspected; if an XY chromosomal pattern is found, it is usual to suggest gonadectomy due to the 25% risk of tumor in the gonad.
- X-ray for bone age would confirm constitutional delay.
- Assessment of 17-hydroxyprogesterone when congenital adrenal hyperplasia is suspected, pelvic ultrasound to assess pelvic anatomy.
- Skull X-ray if prolactin is raised are appropriate.
Causes and further management:

1. **Normal secondary sexual characteristics but with primary amenorrhoea.**
   This is most commonly caused by an imperforate hymen and is characterized by cyclic pain and a haematocolpos...
   Treatment is by surgical opening of the hymen and drainage of the collected blood.

2. **Primary amenorrhoea with Poor or absent secondary sexual characteristics. These comprise:**
   
   **a. Constitutional delay**
   The diagnosis is likely in a healthy adolescent who is short for the family but appropriate for the stage of puberty and bone age.
   There is often a family history and it may be associated with chronic systemic disease (rare, but consider hypothyroidism and malabsorption).
   - If the bone age on X-ray is less than the chronological age than it is reasonable to adopt a conservative approach. Anorexia nervosa should also be considered
   
   **b. Ovarian dysfunction.**
   *This may* be due to gonadal agenesis with Turner’s syndrome or Turner’s mosaic.
   Treatment is specialized as oestrogen treatment may predispose to short stature by premature epiphyseal closure.
   Therapy is with low-dose ethinylestradiol initially, increasing over the next 18 months.
   A progestogen is then added for 5 days every 4 weeks. The dose of oestrogen is increased if response is adequate and the contraceptive pill substituted.

C. **Hypothalamo-pituitary disorders (Hypogonadotropic hypogonadism):**
   is usually associated with pituitary tumours and other pituitary deficiencies.
   In Kallmann syndrome there is a congenital deficiency of luteinizing hormone-releasing hormone (LHRH) and absent olfactory sensation.
   These girls also need hormone replacement therapy with oestrogen to induce secondary sexual characters.
   Hypothyroidism is likely to cause pubertal delay and need appropriate treatment.