

Menstrual issues and RH in Teens

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Up to SPAED Conference



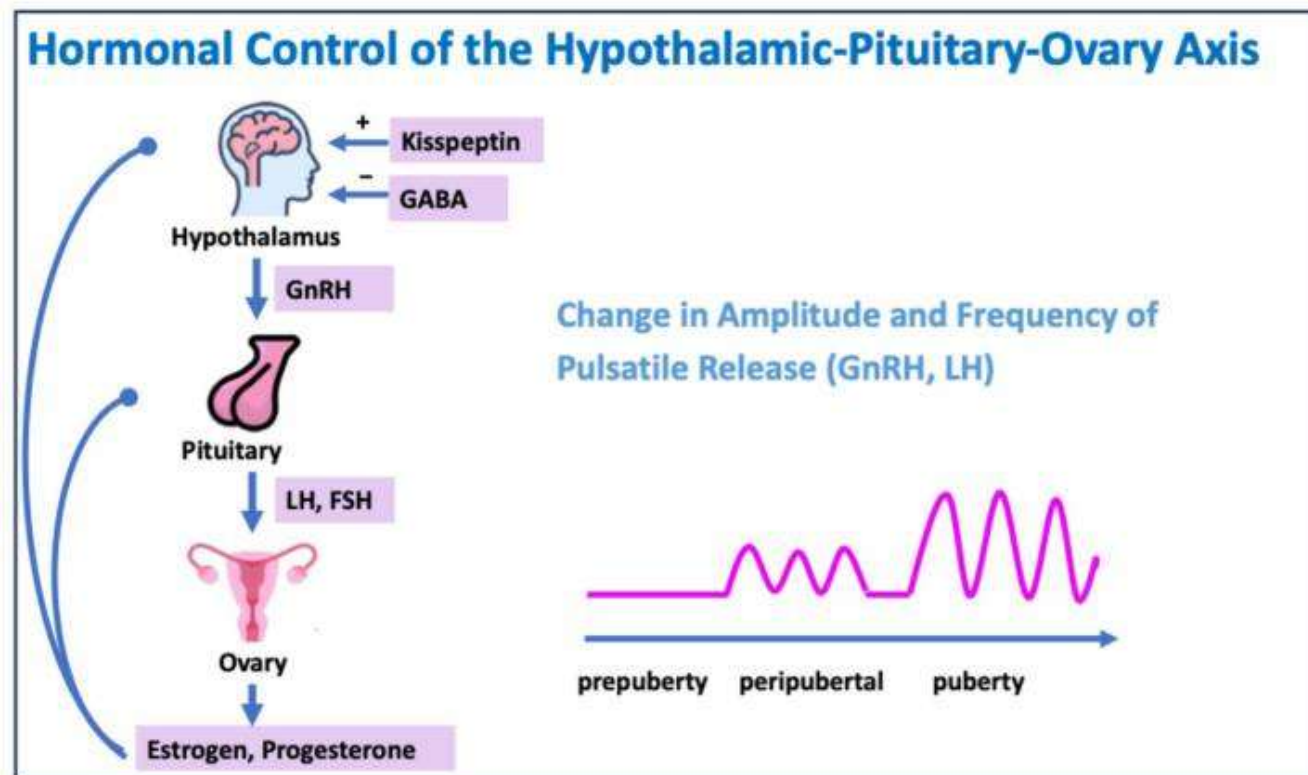
Outline

- Physiological vs Pathological
- Menorrhagia
- Amenorrhea
 - Hyperandrogenemia
 - Congenital Adrenal Hyperplasia
- Dysmenorrhea
- Menstrual Suppression
- Teen Contraception

Physiological vs Pathological

- Adolescence – 10-19 years
- Menarche- 12-13 years
- Irregular cycles- in the first 2 years (Immaturity of the HPG axis-anovulatory cycles)
- 85% of cycles are anovulatory
- Menstrual irregularities **usually** do not need investigation, except in hypermenorrhea, anemia or pain

Physiological vs. Pathological



Anthon C, Steinmann M, Vidal A, Dhakal C. Menstrual Disorders in Adolescence: Diagnostic and Therapeutic Challenges. J. PMID: 39768589; PMCID: PMC11678717. Clin Med. 2024 Dec 16;13(24):7668. doi: 10.3390/jcm13247668

Physiological vs. Pathological

- History & Examination + Weight and Height
- Tanner Stages (Hormonal axis is functioning according to age and puberty)
- Ultrasound with a full bladder (uterus/ ovaries)
- Visualization of the external genitalia- *with traction*
- *Pediatric speculum*
- *Genetic examination/ MRI/ Laparoscopy*
- Hormone status/ Bone age

Menorrhagia

- **Menorrhagia (>7days />80ml)**
 - Anemia
 - Depression
 - Negative impact on quality of life
- Insufficient release of GnRH/LH/ disruption of the feedback mechanism/irregular rise and fall of E/ disrupted balance of E&P
- Differential diagnosis
 - Haematological disease : VW, platelet disorder, Factor 7 or 8 deficiency (7%-68%)

Amenorrhea

- Primary vs. Secondary
- Always exclude pregnancy

Hypogonadotropic hypogonadism- (WHO I)	Constitutional, Hypothalamus/ Pituitary (Sheehan's Syndrome, Genetic- Kallman's Syndrome LH/ FSH with low (prepubertal hormonal profile)
Hypothalamic- Pituitary Dysfunction (WHO II)	Stress, exercise Risk of Polyendocrine Metabolic Ovarian Syndrome
Hypergonadotropic Hypogonadism (WHO III)	POF FSH >25IU/L LH and FSH increased
Organic Causes (WHO IV)	Malformations, MRKH or hymenal atresia

Amenorrhea

Hypogonadotropic Hypogonadism (WHOI)

Low to normal gonadotropin levels with mostly low Oestradiol

Ultrasound- thin endometrium, no follicular maturation

- Functional disorder of the hypothalamus and gonadotropin release
 - Sport, eating disorder, stress
 - Calorie restriction with normal BMI can lead to menstrual disorders
- Rarer causes (brain tumors, craniocerebral trauma, perinatal asphyxia, radiotherapy of the brain, systemic diseases (histiocytosis, Wilsons disease, thalassemia) or a genetic defect (Kallmann Syndrome, septo-optic dysplasia, GnRH receptor defect)

Amenorrhea

Delayed Puberty

- Absence of breast development at 13.5 years/ pause in puberty for 18 months
- Occurs in 0.3% of adolescents
- Normal variant (Familial clustering)
- Differential Diagnosis: Constitutional, eating disorder, drugs, chronic diseases, gonadal abnormalities, hypothalamic and pituitary abnormalities, Prader or Leopard syndrome

Amenorrhea

Premature Ovarian Insufficiency (WHO III)

- Rare in adolescents
- Turners Syndrome
- Fragile X premutation
- XY gonadal dysgenesis
- Autoimmune causes (Hashimotos's OR Addisons)
- Iatrogenic causes
- Androgen resistance
- Increased FSH $>25\text{IU/L}$

Amenorrhea

Delayed Puberty

Age	Age specific suggestions	Dose
12-13	No spontaneous dev and FSH is raised	17B Oestradiol Transdermal 6.25/ day via patch Oral- 5ug/ day or 0.25mg/day
12.5-15	Increase E2 does at 6-month intervals over 2-3 years to adult doses	Transdermal: 12.5, 25, 37.5, 50, 75, 100 ug/day Oral 5, 7.5, 10,15 ug/kg/day
14-16	Cyclic progesterone after 2 years or when breakthrough bleed occurs	Oral micronized progesterone 100-200 during 12- 14 days of the month mg/day or Dydrogesterone 5-10 mg/day

Dysmenorrhea

- Genital malformations
- Endometriosis (2% - adolescents)

Menstrual suppression

- The use of Hormonal medication to achieve reduction in volume, frequency and achieving amenorrhea
- Complete amenorrhea is difficult to achieve- realistic expectations
- Menorrhagia
 - Thin endometrium
 - Thick endometrium

Transdermal CHC (6mg norelgestromin+ 0.75mg EE)	Weekly	Moderate rates of amenorrhea (22%) Compliance better than with weekly administration
Vaginal Ring (0.120mg Etonogestrel + 0.015mgEE)	Monthly Continuously	Excellent rates of amenorrhea
Oral Progestins <ul style="list-style-type: none"> • Norethindrone • Medroxyprogesterone acetate 	Daily	Irregular bleeds Irregularity improves with ongoing use
DMPA	150mg IMI OR 104mg SQ	Approaches 68-71% of amenorrhea at 2 years
Progestin-containing IUD (Levonorgestrel 20ug/ day)		50% amenorrhea in 1 year, 60% in 5 years
COC- continuously or extended	20ug +LVNG 90ug	50% of amen at 3 months 69% at 6 months and 79% at at month 13

Menstrual suppression

- Shared decision making
- Individualized approach to informed consent process
- Evidence based counselling of available options
- Emphasis should be placed on reduction of bleeding rather than amenorrhea
- Do not start menstrual suppression prior to the 1st period
- Routine pelvic examination is not necessary for these women

Menstrual suppression

Transgender and gender-diverse individuals may benefit from menstrual suppression due to the association for some patients of gender dysphoria with menses.

Practical considerations with menses in transgender and gender-diverse individuals include not only dysphoria with menses but also attitudes and safety concerns regarding public restroom use for menstrual hygiene

Women's and girl's experiences

- Early studies discomfort and fear
- Access to
 - clean and reliable materials to absorb menses
 - Supportive sanitation infrastructure
 - Biological and pragmatic information
- Negatively impact school participation

Sommer M. Ideologies of sexuality, menstruation and risk: girls' experiences of puberty and schooling in northern Tanzania. *Cult Health Sex.* 2009; 11(4):383–98. Epub 2009/03/28. <https://doi.org/10.1080/13691050902722372> PMID: 19326264.

Sommer M. Where the education system and women's bodies collide: The social and health impact of girls' experiences of menstruation and schooling in Tanzania. *J Adolesc.* 2010; 33(4):521–9. Epub 2009/04/28. <https://doi.org/10.1016/i.adolescence.2009.03.008> PMID: 19395018.

Contraception

- Same methods as used in adults
- Age alone does not constitute a medical reason to deny a method
- Confidentiality
- Concealment of sexual activity
- Sporadic patterns of intercourse
- Less tolerant of side effects- high discontinuation
- Medical reasons: Dysmenorrhea, Menorrhagia, Acne
- 5 P's (Partners, Prevention-pregnancy, Protection- STI's, sexual Practices, Past history)

Contraception

Types of contraception- IUCD

- Any IUCD (Levonorgestrel 52mg, 13.5mg or the copper IUCD)
- Risk of PID is higher in the first 21 days
- Risk of expulsion (5%)- higher in adolescents

Contraception

Depo-medroxyprogesterone acetate

- IMI OR SC
- Reduced Bone Mineral Density
 - Black Box warning in 2004
 - Substantial recovery after discontinuation
 - If there is no alternative – one should still use DMPA
 - No recommendations -Bone Density measurement

Contraception

Combined Hormonal Contraception

- The estrogen component should be 35ug or less (EE)
- Most practitioners
 - 30ug CHC + Levonorgestrel or Norgestimate
 - Placebo free intervals
 - Ring and patch may also be used

References

- Anthon C, Steinmann M, Vidal A, Dhakal C. Menstrual Disorders in Adolescence: Diagnostic and Therapeutic Challenges. J. PMID: 39768589; PMCID: PMC11678717. Clin Med. 2024 Dec 16;13(24):7668. doi: 10.3390/jcm13247668
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Thank you

