

AGE & PUBERTY



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RECOMMENDED BOOKS

AYURVEDIC

- Ayurved Prasuti Tantra
Evam Streerog (PART 1 &
2)- **Premvati Tiwari**
- Streerog Prasuti Tantra –
Nirmala Rajwade
- Prasuti Tantra – **Dr.
Madhuri Bhoyar**
- Instruments – Yantra
Shastra Vidnyaniya –**Dr.
Yogesh Narkhede et**

MODERN

- Text Book Of Obstetrics
- **D.C. Datta**
- Text Book Of
Gynecology –
D.C.Datta
- Text Book of Obs &
Gyneco – **C. S. Down**
- Text Book of
Gynecology- **Shaws**





VAYA AVASTHA (AGE)

○ Female Life:

1. Childhood – Before Puberty
2. Puberty – Links childhood to adulthood
3. Reproductive Period – Menstruation to Menopause
4. Menopause

○ Vaya Anusar Awastha

- Different Acharya Gives quite different division as per age

- Charak –
1. Balawastha – upto 16 yrs
 2. Madhyama awastha- 16 to 60 yr
 3. Vrudha awastha – More than 60 yr



○ **Sushrut** –

1. Balawashta – upto 16 yrs
2. Madhyam awastha – 16 to 70 yrs
 - i. Vruddhi – 16-20 yrs
 - ii. Yauvan – 20 -30 yrs
 - iii. Sampurnata – 30 -40 yrs
 - iv. Parihani – 40 – 70 yrs
3. Vrhudhavastha – More than 70 yrs

○ **Vagbhat:**

1. Balavastha – upto 16 yrs
2. Madhyamavastha – 16 to 60 yr
 - i. Yauvna – 16 – 30 yr
 - ii. Sampurnata – 30 – 40 yr
 - iii. Aparihani – 40 – 60yr
3. Vrudhavastha – more than 60 yr



○ Kashyap:

1. Garbha
2. Bal – upto 1 year
3. Kumar – 1 to 16 yr
4. Yauvana – 16 to 34 yr
5. Madhyama – 34 to 70 yr
6. Vrudha – more than 70 yr

○ Harit:-

1. Bal – Upto 16 yrs
2. Madhyama – Yauvana – 16 to 25 yrs
Madhyama – 25 to 70 yrs
3. Vrudha- after 70 yrs

Also :-

- Madhyama vastha :
1. Praudha
 2. Pragalbha



○ **Bhavprakash** –

Madhyama :- Taruni – upto 32

Adhirudha – 32 to 50 yrs

Vrudha :- after 50 yrs

Parashar Smruti :-

अष्टवर्षा भवेत् गौरी नववर्षा तु रोहिणी !

दशवर्षा भवेत् कन्या अत ऊर्ध्वं रजःस्वला !!

8 year - गौरी

9 year - रोहिणी

10 year - कन्या

More than 10 year - रजःस्वला



IMPORTANCE OF “AWASTHA”

○ Dosha Dhatu Bal Awastha:

	Dosh	Dhatu	Bal	Other
Bal	Kapha +++	Aparipakv	Asampurn	Absence of Sec. Sexual Character
Madhyam	Pitta +++	Paripakva, Vrudhi, Sampurnata	Uttam,	Sec. Sexual Character, Reproduction
Vrudha	Vaat +++	Parihani, Kshya	Alpa	Menopause



○ Vyadhi Vyavachhed:

Yoni kand – Vrudha vastha

Udavartini – Garbha awastha

Menstrual Irregularitiy – Puberty and Menopause

Child – PV Bleed / white Discharge – Most common cause FB
/ Injury

Old Age – PV Bleed - Malignancy

○ Rugn Parikshan / Investigation

During Childhood – Avoid Per Vaginal Exam

- Prefer Per Rectal Exam to Palpate Pelvic organ

Hematological Parameters Vary as per Age

○ Chikitsa:-

- Aushadi Matra
- Panchakarma



PUBERTY

- Physiological Transition from Childhood to Adulthood
- Associated with
Growth Spurt
Appearance of Primary & Secondary Sexual Character
(Genital organs, Breast, Pubic & Axillary hairs,
Menstruation etc)
- Occurs Between 8 to 14 years of age in Girls



WHAT OUR SCIENCE SAYS???

- Sharir Kirya :-

Dosh , Dhatu, Bal, Satva etc changes from
Childhood to Adulthood

Growth Spurt :-

Age wise *awastha , dhatu parivartan, vrুদ্ধhi*

Age of menstruation : 12 years

Cause – *Raj, Rasaadi dhatu Upachay, Vay,*

Kal, Karm



- रज / शोणित बाल्यावस्था से उपस्थित (अ.सं.शा. १/२१)
- शोणित : उचित काल , कर्म से व्यक्त / दृष्टिगोचर होते हैं. (का.सं.शा. ५ /४)
- आर्तव, स्तन, रोमराजी - १२ वर्ष से पूर्व और ५० वर्ष के बाद दृष्टिगोचर नहि होते (च.शा.४/३०, चक्रपाणी)
- रजोदर्शन के पूर्व स्त्रियो मे रोमराजी, केश, स्तन परिवर्तन होते है. (सु.सं.सू.१४/१८, डल्हण)



- रज के उपचय से स्तन, गर्भाशय, योनि कि वृद्धि होती है. (सु.सं.सू. १४/१५)
- रसधातु - रज , स्तन्य कि उत्पत्ती
- प्रथम रजोदर्शन वय - १२ - १६ वर्ष
- रजोदर्शन पर विशिष्ट आहार और आरोग्य का प्रभाव होता है. (का.सं.शा.५/४)
- ऋतुचक्र का वर्णन
- रजोदर्शन - ५० वर्ष के वय तक



WHAT YOU REMEMBER???

- Hypothalamo Pitutary Goandal Axis??

- Which Hormones by :

1. Hypothalamus :

GnRH , TRH, CRH, GHRH

2. Pitutary :

FSH, LH, TSH, ACTH, GH

3. Gonads (Ovaries)

Estrogen , Progesterone

4. Adrenal Gland

DHA, DHAS, Androstenedione



- **Newborn** – Maternal Estrogen (Low levels)

Thereafter Decline In Estrogen level

- **Childhood:-**

Suppression “CNS Inhibition of Hypothalamus”

“Feedback of Low estradiol due to high sensitivity”

- **As Puberty Approaches**

Negative Feedback effect of estragon lost

GnRH – Increase in frequency & Amplitude

Increase Adrenal gland activity – sex steroid synthesis (DHA, DHAS, Androstenedion)



OVERVIEW OF ADOLESCENT PUBERTAL DEVELOPMENT

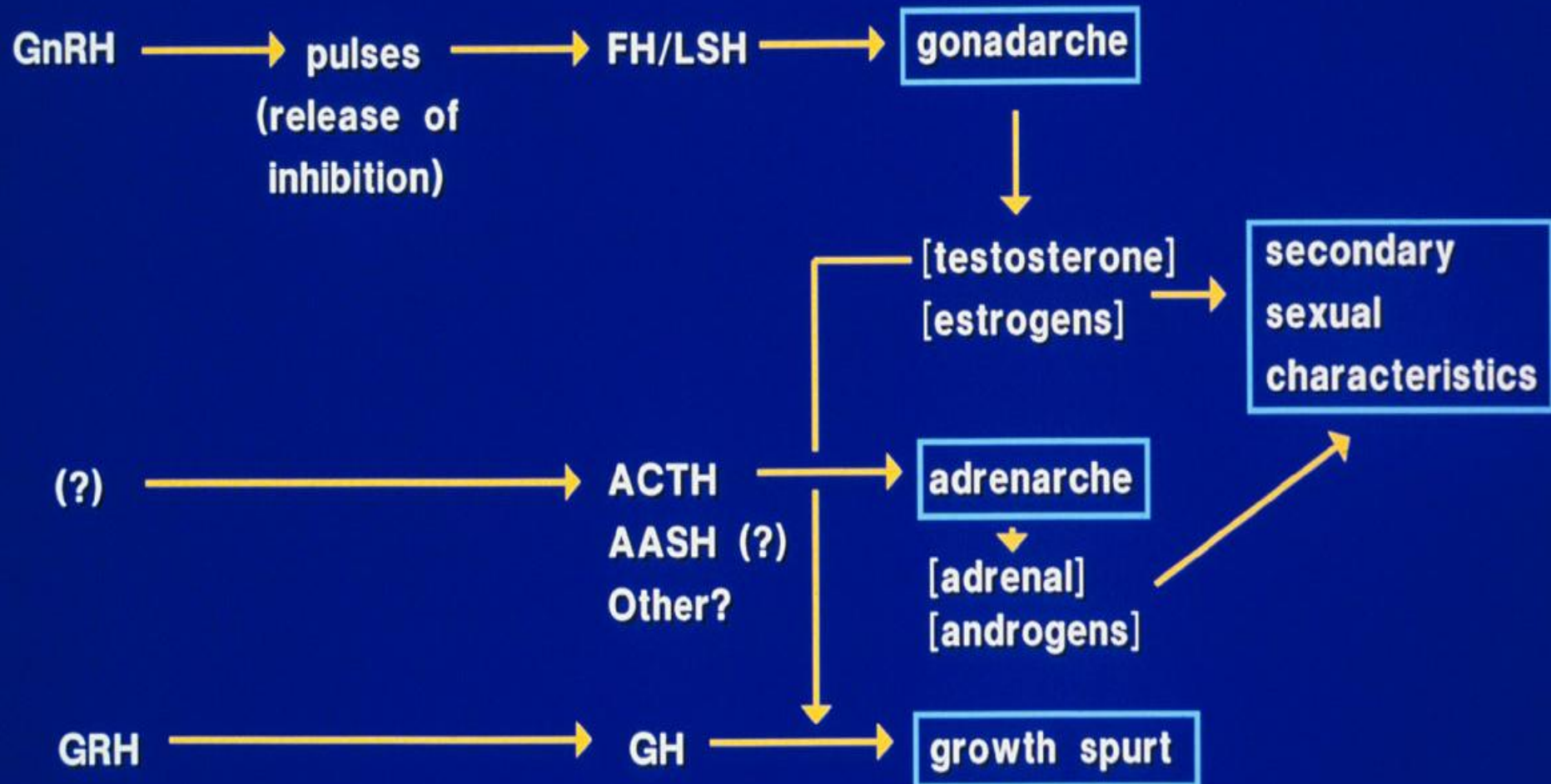
- Usually Occurs Between age – **10 to 16 years**
- **Determining factor :-**
 - 1. Genetic ---- Major Determining Factor
 - 2. Geographic Location
 - 3. Exposure to Light
 - 4. Excessive Exercise
 - 5. General Health & Nutrition
 - 6. Psychological factors



Puberty

Hypothalamus

Pituitary



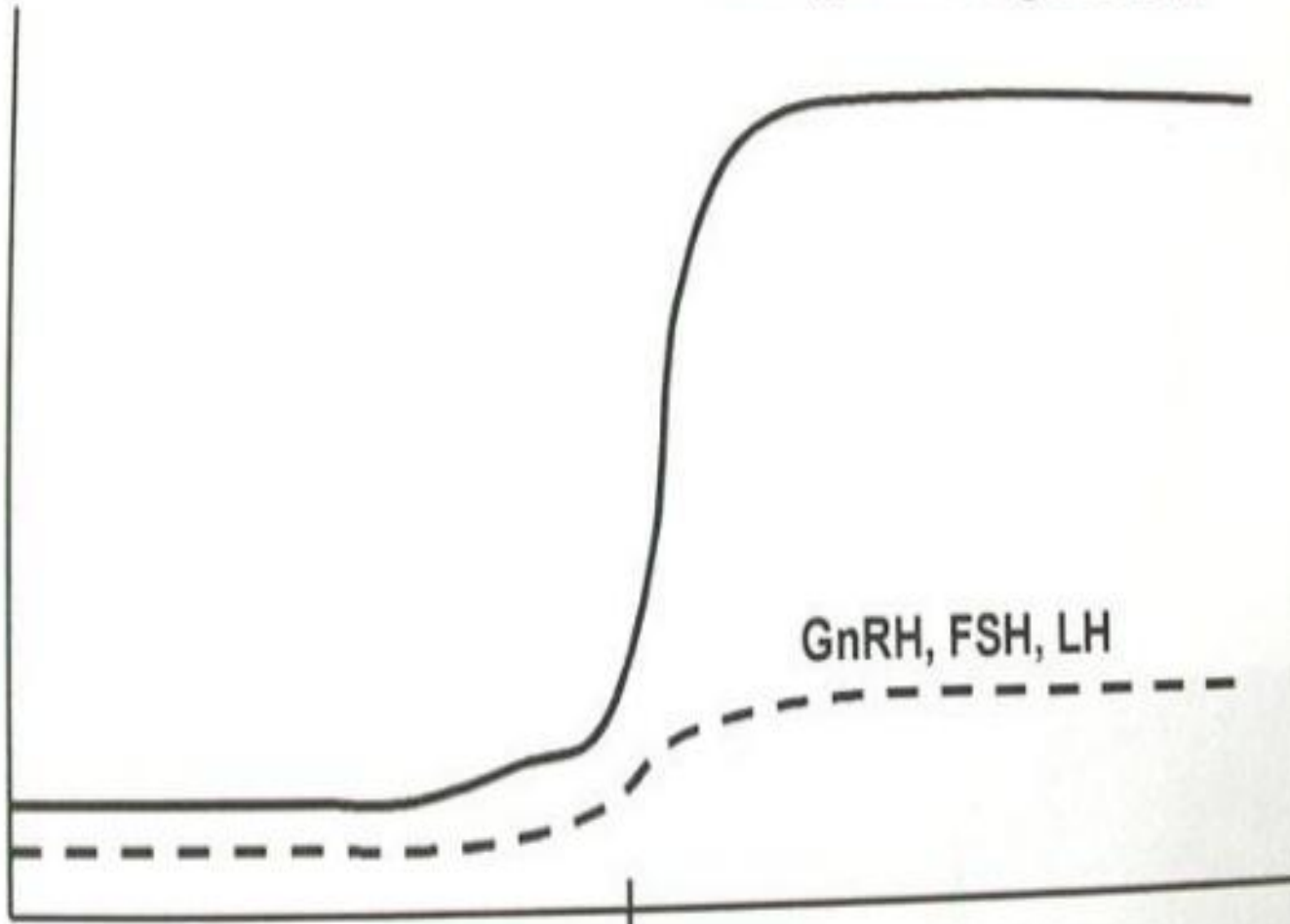
FEMALES

Estrogen & Progesterone

amount of hormone

GnRH, FSH, LH

PUBERTY



STAGES (PHYSIOLOGICAL CHANGES)

The pubertal sequence requires 4.5 yrs (Range= 1.5 – 6 yrs)

	WHAT	WHEN	HOW
Thelarche	Development of Breast, 5 Tanner stage	+/- 10 yrs, First Sign of Puberty	Estradiol
Adrenarche	Development of PH (Pubic Hair) 5 Tanner stage & AH (Axillary Hair) 3 Tanner Stage	PH – 1 Year after Thelarche AH – is the Final SCC (Sec. Sexual Char.)	Adrenal Androgen (DHA, DHAS, Androstenedione)
Spurt of Growth	Accelerated Growth , 6-11 cm / year	With Adrenarche	GH, Estradiol, IGF-1
Menarche	First Menstruation	+/- 12 year (10 to 16 yrs)	Midpubertal Estradiol

- **5. Deposition of Subcutaneous Fat:**

17 % - To Menstruate

22% - To Ovulate

- **6. Genital Organ Changes :**

Mons Pubis, Labia Majora, Labia Minora – Increase in size

Vagina:

Length – Increases, Appearance of rugae

Epithelium – Thick, Stratified squamous, containing

Glycogen

pH - Acidic



- Uterus: Enlarges, U / C : 2 / 1
- Ovaries : Increases in size, Almond Shape
2 million primary oocytes at birth.
4,00,000 primary oocytes at puberty.



Summary of pubertal events

1. FSH & LH rise moderately before the age of 10 yrs, followed by a rise in E2. LH pulse frequency increases are first seen in sleep but then are extended throughout the day. The final adult pattern is 1.5 to 2 hrs intervals between pulse.

2. Increased levels of E2 (gonadarche) results in

Maturation of SSC.

Increased skeletal growth at low levels of E2.

Increased GH & IGF-1



3. **Adrenal androgen** cause adrenarche (pelvic & axillary hair). No major role in growth. It is an independent event.
4. **Midpuberty levels of E2** are sufficient to induce menstruation.
5. **Postmenarchal periods** are irregular for 12-18 mo {LH surge is late pubertal event}



