

CYSTIC OVARIAN DEGENERATION LESSON-1

Presented by

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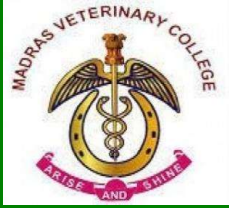
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Objectives- Lesson I

- Introduction
- Hormonal regulation of ovarian activity
- Predisposing factors

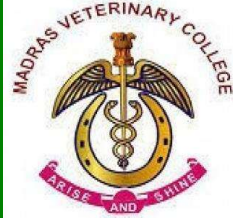


Introduction

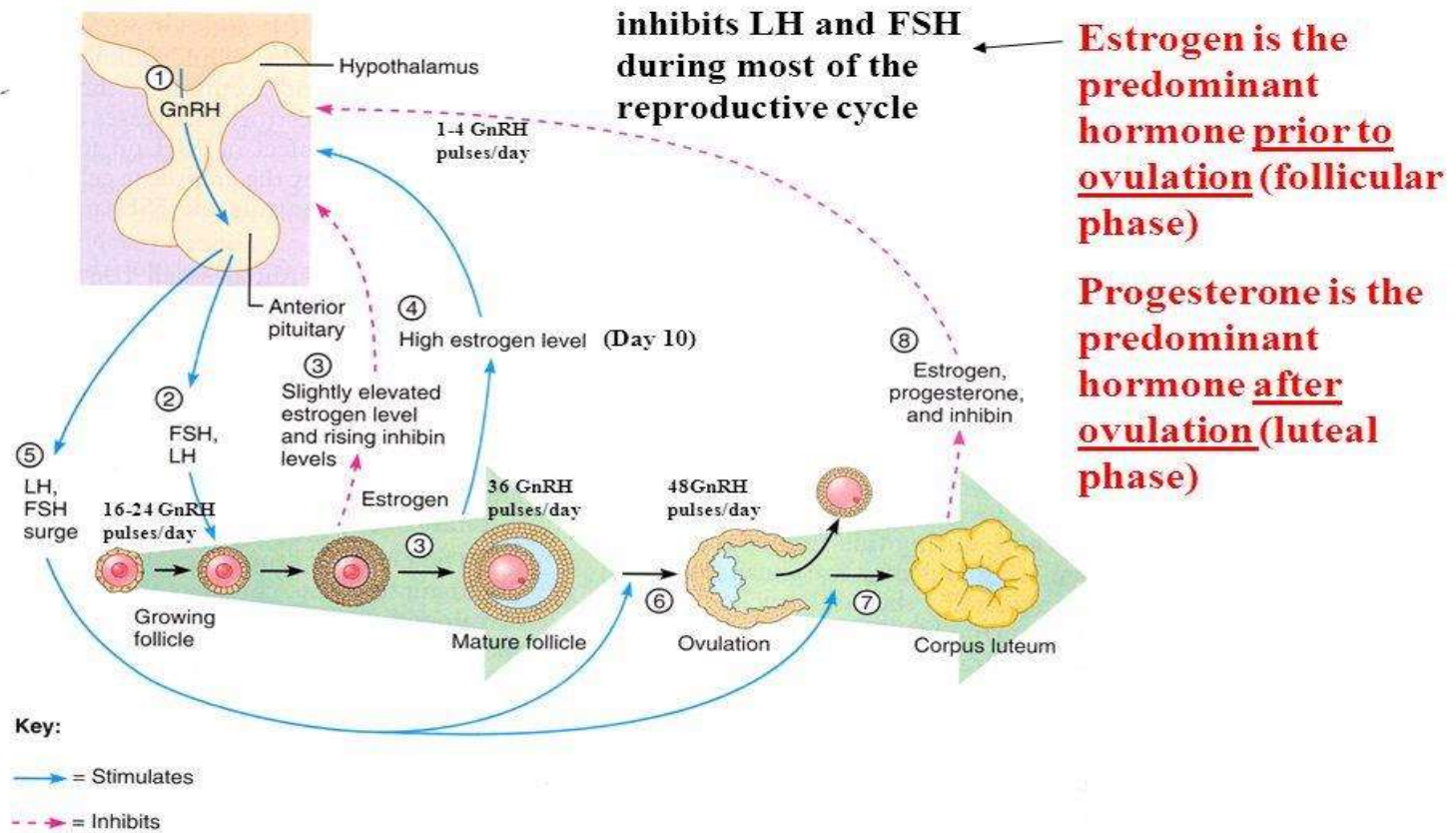
- Cystic ovarian degeneration is a common clinically recognized cause of infertility in dairy cattle
- Incidence has been 6-19 per cent - Serious cause of reproductive failure
- Cystic ovarian degeneration is characterized by **one or more large anovulatory follicles(s)**, greater than 2.5 cm in diameter, present in one or both ovaries that **persist for at least 10 days** in the **absence of a corpus luteum with** abnormal oestrus behaviour (Youngquist and Threlfall, 2007)

(or)

One or more large follicles(s), greater than 17mm in diameter, fail to ovulate and subsequently do not regress and **persist for at least 10 days**, but maintain growth and steroidogenesis (Vanholder et al., 2006)



Hormonal Regulation of Ovarian Activity



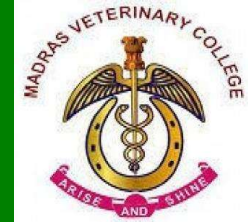
Estrogen is the predominant hormone prior to ovulation (follicular phase)

Progesterone is the predominant hormone after ovulation (luteal phase)

Figure from: Marieb, *Anatomy & Physiology*, Pearson, 2004



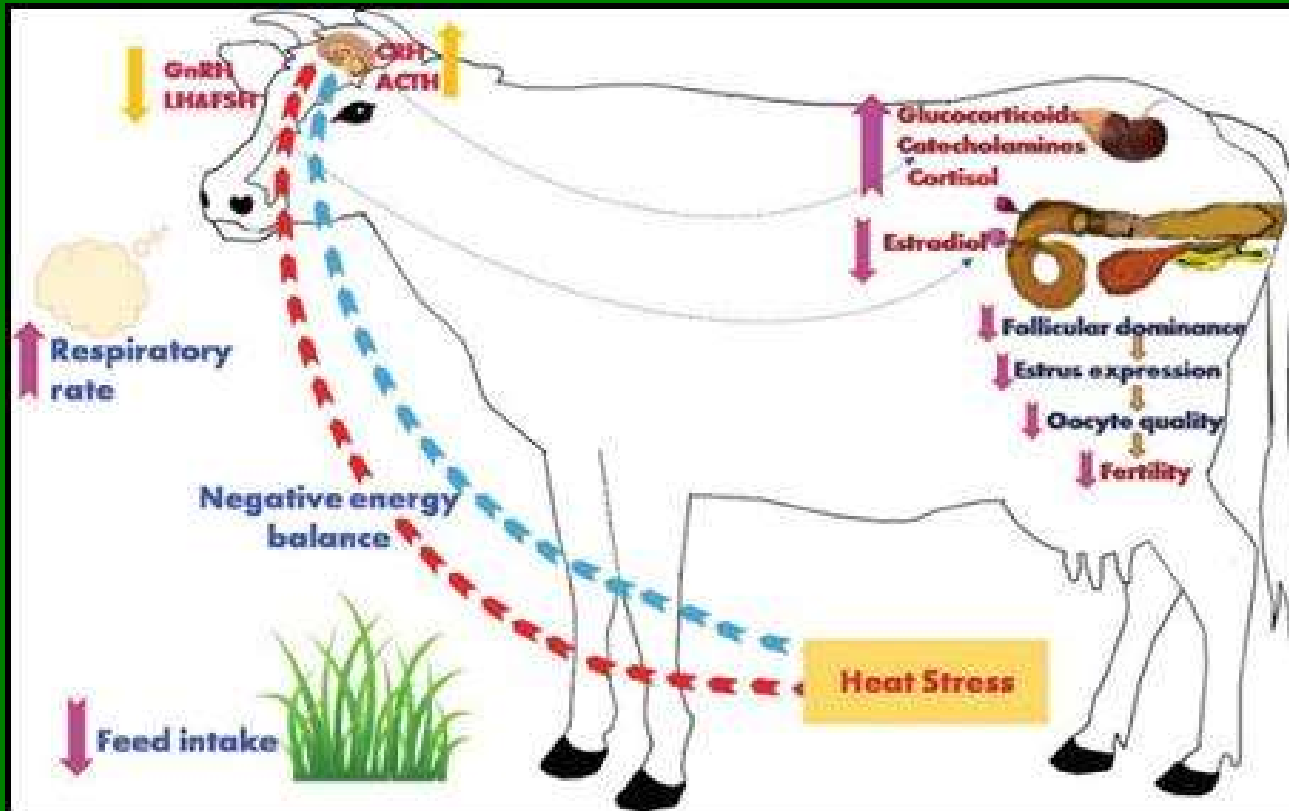
Predisposing Factors



- Most prevalent in high producing dairy cows (30 to 60 days after calving)
- Common in closely confined and stabled animals
- Occurs during winter than summer and fall months
- Commonly observed between second to fifth parturition
- Intake of estrogen containing forages – Alfalfa, zearalenone, red clover etc.
- Increased stress at calving
- Metabolic diseases
- Excess negative energy balance
- Hereditary - Twinning
- High protein diet
- Uterine infection
- Postpartum complications – Dystokia, RFM, Metritis etc.



Predisposing Factors (contd...)





Predisposing Factors (contd...)



Subnormal luteal levels of progesterone observed in high producing dairy cows, especially energy compromised



Inadequate formation of LH receptors



Decreased sensitivity to LH of the growing follicle

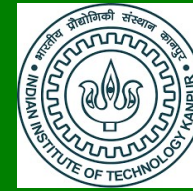


Creation of a persistent dominant follicle and cyst
Arrest of the next follicular waves before
dominance and ovulation

Anovulation and anoestrus

So far we discussed....

- Introduction
- Hormonal regulation of ovarian activity
- Predisposing factors



Thank you

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