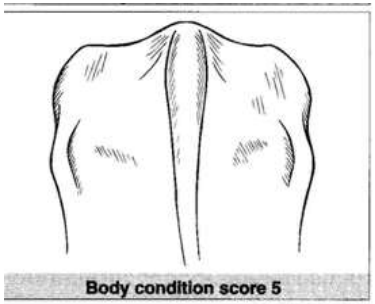
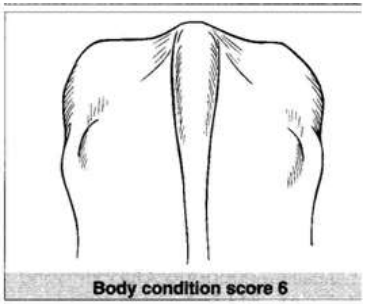
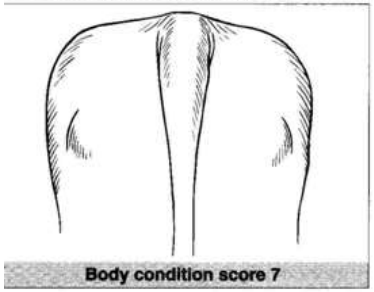
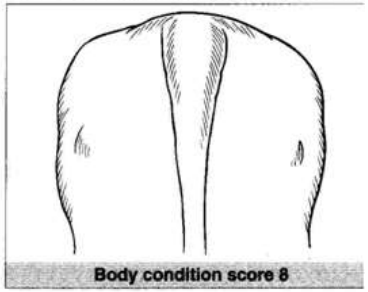
Non Infectious Repeat Breeding









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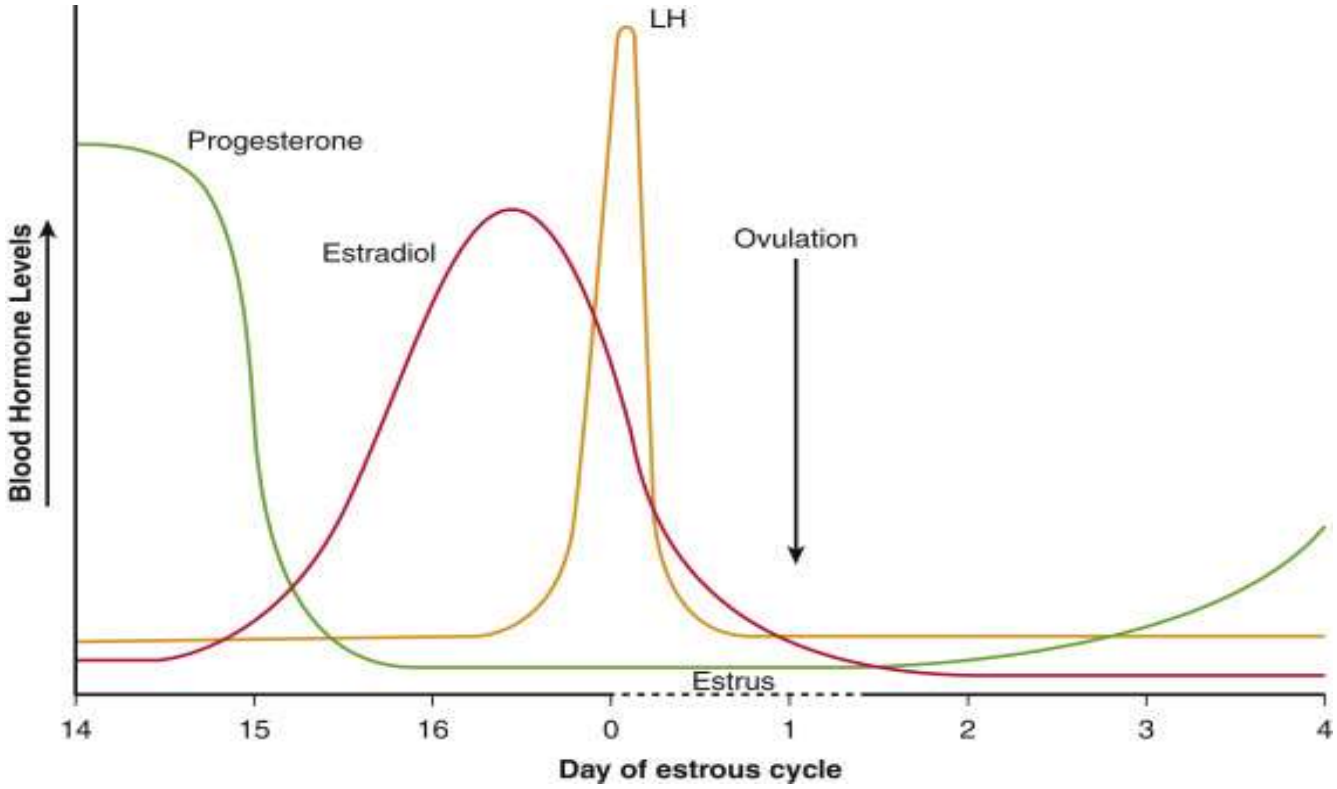
Non Infectious Repeat Breeding

Sir, I have repeat breeding problem
am sufferer since long !

"I am a skilled and trained vet,
I assure that you will have to conceive !
You will have to carry pregnancy also ! !"

Non Infectious Repeat Breeding



Non Infectious Repeat Breeding

Definition : **Animal having normal or nearly normal oestrual cyclicity fails to settle even after three consecutive services.**

Burning problem in dairy animals

Highest cause of infertility in dairy animals

Cyclic non breeder animals

Incidence is common in both cows & buffaloes

Least cared for cause by correct diagnosis

Buffaloes are put to slaughter/cull regularly

Non Infectious Repeat Breeding

Economics

Reproduction = Production

Annual national losses Rs 35000.00 crores

Maintenance expenses (per day)

- @ Rs 300/- per milking cow (M.Y.=15+ litrs)
- @ Rs 350/- per milking buffalo (M.Y.= 12+ litrs)
- @ Rs 200/- per low producer cow (M.Y.= 05 litrs)
- @ Rs 225/- per low producer buff (M.Y.= 05 litrs)
- @ Rs 100/- per non lactating cow
- @ Rs 125/- per non lactating buff

Loss of one cycle

- @ Rs 6000/- per milking cow
- @ Rs 7000/- per milking buffalo
- @ Rs 4000/- per low producer cow
- @ Rs 3500/- per low producer buff
- @ Rs 2000/- per non lactating cow
- @ Rs 2500/- per non lactating buff

Non Infectious Repeat Breeding

Basic failures of owner and vets

No written reproductive record with owner
No observation details with owner
Wet, moist, soiled, unhygienic byres
Failure of balanced feeding
Unavailability of provision of Area Specific Minerals
No control / monitoring on AI , flying consultancy
No liaison with vet, attitude to change inseminator
No investigation of case by vets
Ever changing cause in every case
No follow up till confirmation of etiology
Attitude to dispose infertile animal
Impatience and poor scientific knowledge
Poor laboratory diagnostic facilities but no priority for demand

Non Infectious Repeat Breeding

Causes of Repeat breeding

Acquired
- Defects of tract
- Defects of gametes

Managemental
- Herd size , AI
- Heat detection

Endocrine disturbances
- Low levels
- Dysfunctions

Immunological
- Clumping

Environmental
- Stress
- Season

Nutritional
- Energy
- Minerals

Pathological
- Infections
- Inflammation

Non Infectious Repeat Breeding

Diagnosis : Clinical

Clinical diagnosis : 1. Check reproductive history

Interoestrus interval,

Oestrus duration,

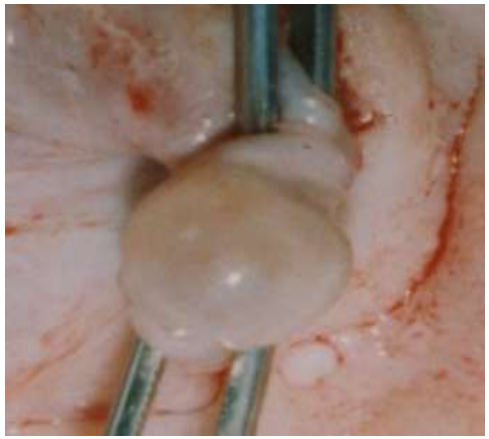
AI timing, BSC,

2. Per rectal palpation

Day 0, +1, +8,

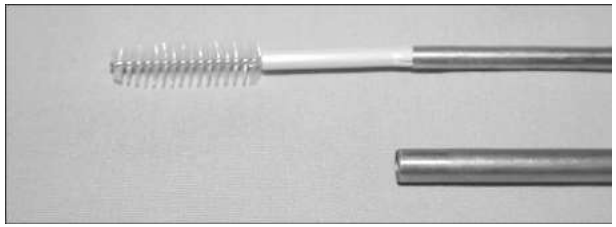
3. USG scanning

Day 0, +1, +8



Non Infectious Repeat Breeding

Diagnosis : Laboratory



Samples :Oestrual mucus

(Colour, Consistency, oder, P^H , Ferning, Metricheck score)

Blood (Haemogram, phoshorus, protein)

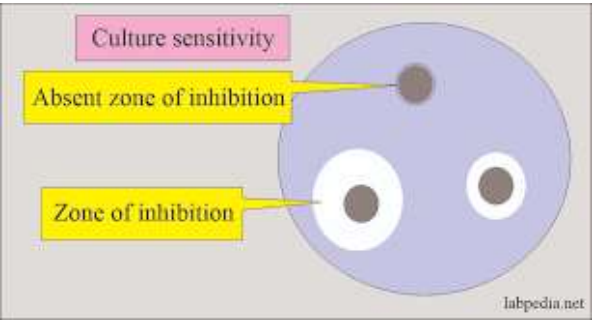
Vaginal swab (ABST, cyto brush)

Endometrial content

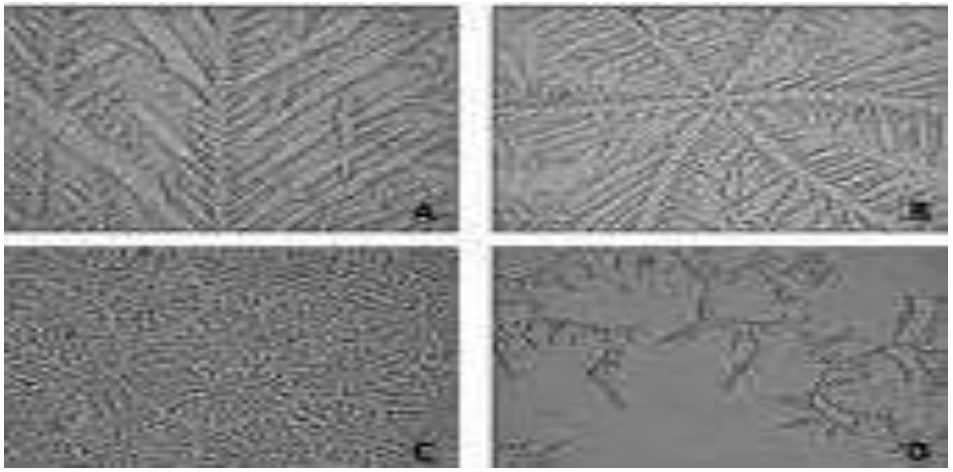
(White Side test, PMN cell count)

Semen / semen straw

(Motility, count, cell integrity)



Non Infectious Repeat Breeding



Classify the case

Regular oestrus

00-21 days

Failure of fertilization

Weak CL development

Failure of implantation

Irregular Oestrus

22-42 days

Short oestrus cycle length

Acute endometritis D 4-8

Chronic endometrirtis D 12-16

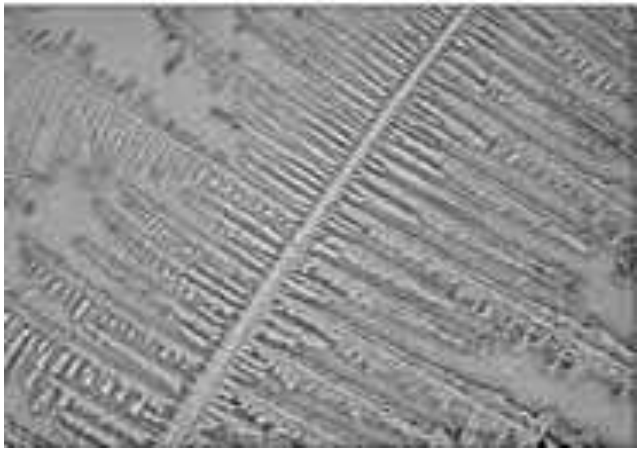
Prolonged cycle length

Early embryonic death

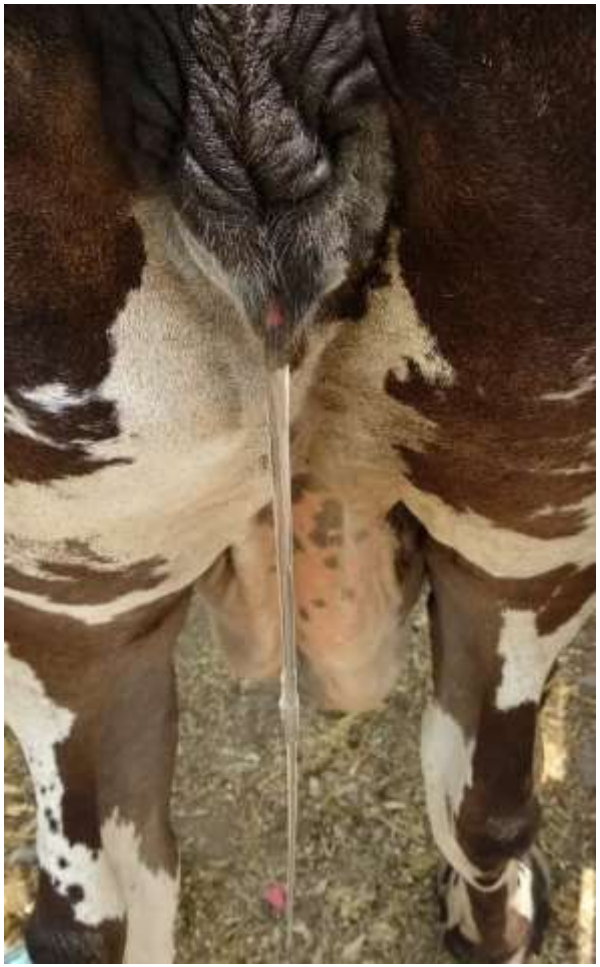
Non Infectious Repeat Breeding

Assess the case

Infectious	Criteria	Non- Infectious
Turbid	Oestrual mucus	Transparent
Below 6.6 & Above 7.4	P^H	6.6 to 7.4
1 - 3	Metricheck score	00
Positive	White side test	Negative
5 cells and above	PMN cell count	1 to 3 cell count
Sensitivity pattern	ABST	No pattern



Non Infectious Repeat Breeding



Ovulation Delayed
Ovulation failure

Short / Prolonged oestrus
Split oestrus
Infective oestrus
Induction / initiative oestrus
Super ovulatory oestrus
Irregular oestrus
False oestrus
Gestational oestrus

Non Infectious Repeat Breeding

Solutions	**AI management**
	Insemination skill improvement
	Fern pattern confirmation
	Follow ovulation
Treatment	**Compensate LH deficiency**
	Luteo- tropic support
	Supplement P_4
	Avoid implantation failure

Non Infectious Repeat Breeding

Hormones to improve CR

GnRH @ μg with AI

GnRH @ 10 μg on D 3/5

GnRH @ 10 μg on D 5/12

LH @ 1500 IU with AI

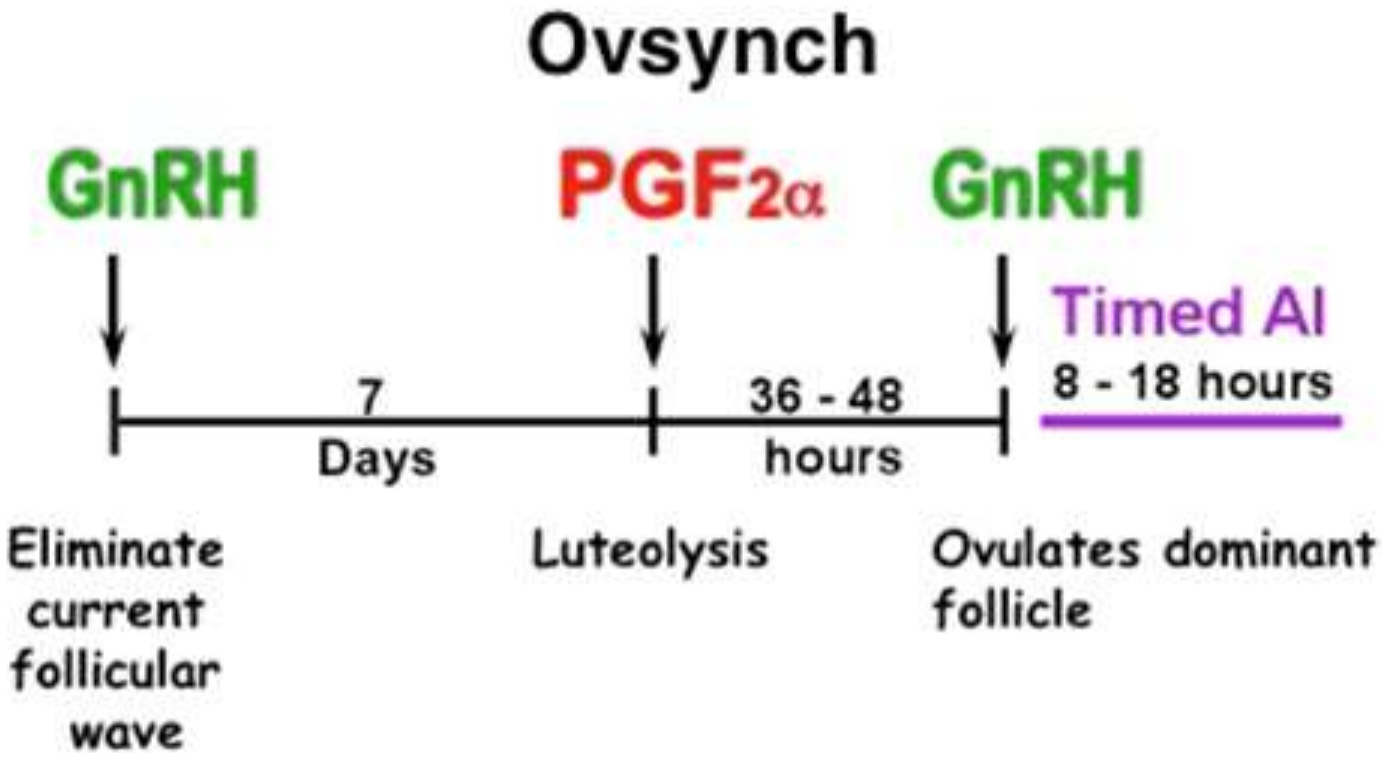
LH @ 1500 IU on D 5

P_4 @ 100 mg on D 7/10/13

NSAIDs on D 12/15

Non Infectious Repeat Breeding

GPG Protocol



Non Infectious Repeat Breeding

Ovaro-bursal adhesions (prognosis)

Tubal block – PSP test / tubal insufflations

Semen quality – Post thaw motility

Non Infectious Repeat Breeding

Nutritive deficiency

– Energy, Minerals

Immuno-infertility

–Change bull

Faulty use of hormones –

Avoid P_4 use on D 0 ,

Avoid oxytocin D 0

Unexplained infertility

One Cycle breeding rest

Hormonal protocols

Ovsynch GPG, Day 5^{th} of cycle

Non Infectious Repeat Breeding

Metoestrus bleeding

Seen in cows only
Only seen in cows with high BCS
Associated with limited discharge
Physiological, normal
No treatment necessary
Not related with conception

Non Infectious Repeat Breeding

Early embryonic mortality

Irregular cycles with interval more than 21 days

AI is regularly followed by

- Gud / Jaggery supplementation
- Minerals , haematinic
- *Shatawari* powder

Positive seed germination test + CL presence on 18-22 days

Milk progesterone test + Non return to oestrus on D21 +

USG D30 = Pregnancy positivity indication

Followed by oestrus – Repeat oestrus

Non Infectious Repeat Breeding

Early embryonic mortality (D 07-18):

D 15–17, No effect on the length of the cycle

Genetics, Nutrition, Uterine environment, Hormone ratio

Poor embryo recognition

Embryo produces a signal around the 12th day

No or weak signal from embryo to dam ;

Late embryonic mortality(D 18-45):

D 18 - 42, length of the cycle increased accordingly

Losses after 25/30 days can be detected by USG

Causes- Genetic, Endocrine, Nutrition,
Chromosomal abnormalities,
Lactation, Infectious,
Environmental /Immunological factors

Non Infectious Repeat Breeding

Endocrine disorder

WeaK CL development / function

Poor production/ release of progesterone

Low levels of progesterone

Progesterone unresponsiveness

Untimely estrogen rise-second wave of follicles

Weak response of endometrium

Interferon –Tau leads to block PG secretion

Non Infectious Repeat Breeding

Decrease the effect of dominant follicle+ Increase progesterone

GnRH administration: 0, D 5, D 11/12/13/14/15 @105 Ug

Progesterone supplementation : 7-11-15/ 8-12-16/ 9-13-17 @ 100mg

hCG administration : D 9/10 for accessory CL formation @1500 IU

Additive plasma progesterone concentration

NSAIDs for inhibition of $PGF_2\alpha$ release

Action is mediated by Inhibition of COX 1 & COX2 enzymes, which in turn inhibits prostaglandin synthesis

Improved pregnancy rates.

Positive energy balance, Reduce heat stress,

Reduce uterine temperature, Fat+ mineral supplementation

Non Infectious Repeat Breeding

Thanks……..

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