Gynaecological examination of non-pregnant cow or buffalo-cow

Dr Hany Lotfi

Faculty of veterinary medicine, Zagazig university
Indications and aims

1- Examination of the heifers at the age of puberty

To detect if the female suffer from any hereditary anomalies in the reproductive tract or not

2- Examination of infertile or subfertile cows

To diagnose the possible cause of infertility and properly handle the cow to conceive in the nearest possible time

3- Examination of inseminated non returned cows or heifer

To decide if the non-returned cows or heifers are pregnant or not

4- Examination of parturient animals
Ischem for Gynaecological examination of non pregnant cows

I- Owner information

II- Animal description and Identification

III- Owner complain

IV- History

V- General clinical examination

VI- Special clinical examination
I- Owner information

<table>
<thead>
<tr>
<th>Name</th>
<th>Job</th>
<th>Address</th>
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</table>

![Image of a man with a donkey in a rural setting]  
![Image of a field and trees]
II- Animal description and Identification

1-Species

2- Breed

Angus  Holstein  Friesian  Simmental

3- Age and number of previous birth

4- Special mark or identification
III- Owner complain and its analysis

1. Anestrum

Heifer not previously came in estrus

Physiologically: did not reach the puberty age and/or body condition

Pathologically: - Bilateral ovarian aplasia - Bilateral ovarian hypoplasia
- Freemartinism - Hermaphordit
- Silent heat - Unobserved heat

Heifer previously came in estrus

Physiologically: Pregnancy, if the last heat is accompanied with service

Pathologically: - Anomalies that include the tubular genital tract
- Inactive ovary - Persistent CL - Luteal cyst
- Unobserved heat - Silent heat

Cows

Physiologically: - Pregnancy, if the last heat is accompanied with service
- During early post partum

Pathologically
2- Repeat breeder

Regular repeat breeder

Failure in fertilization .

The bull.

The female:
- Pathological conditions prevent the ovulation
- Pathological conditions prevent the ovum from reaching the fertilization site
- Pathological conditions prevent the sperm from reaching the fertilization site

The owner (managemental cause)   - Incorrect time of insemination

Early embryonic death

- Abnormally genetic zygotes   - Inflammation in genital tract
- Nutritional deficiency   - Systemic disease accompanied by pyrexia
- Stress on the animal   - Incorrect time of insemination
- Genital infection with special microorganism

Irregular repeat breeder
3- Short interestrus interval or prolonged estrus period

- Follicle theca cyst
- Granulosa cell tumor
- Incorrect identification of one of the two successive estrus

4- Presence of vulvar discharge

Estrus mucus

Postestrus bleeding (metorrhagia)

Prepartum discharge

postpartum discharge (lochia)
IV- History

History in case of anestrum

How the owner knows if his animal is in estrus and when he observes his animal?

For how long the owner observe his animal during the day?

Heifer not previously came in estrus

- Ask about the nature of the nutrition
- Ask about using the animal in another work
- Exposure of the animal to long lasting or chronic depletating disease
- Ask about previous handling
Heifer previously came in estrus

Ask about the number of the previous estrus

Ask about presence of estrus mucus during the previous estrus

Ask about the date of last estrus and either is accompanied with service or not

Ask about the nature of the nutrition

Ask about using the animal in another work

Exposure of the animal to long lasting or chronic depletating disease

Ask about previous handling
Cows

- Ask about the last parturition

Date: Euotocia or dystocia
Drooping of fetal membrane Feeding of the new born:

- Ask about the last puerperium

Suffering from fever during early puerperium
Suffering from metabolic disease
The postpartum discharge (amount, color, odor, and period)

- Ask if the animal show any estrus after the last parturition or not?

How many estrus?
When the first and the last postpartum estrus was
Is the last estrus accompanied with service or not

- Ask about the nutrition and the milk production
History in case of repeat breeder

**Heifer**

- Ask about how many time this animal has been mated and returned to the estrus
- Whether the animal returned to the estrus within regular or irregular
- Whether the animal naturally matted or artificially inseminated

- Ask about the estrus
  - Duration
  - Secretion
  - Time of insemination
  - Last estrus

- Ask about the exposure of the animal to nutritional deficiency or stress after matting

- Ask about previous handling

**Cows**
V- General clinical examination

1. Assessment of body condition score (BCS)
BCS1

BCS 2

BCS 3
2- Inspection of the skin and hair coat
3- Examination of the general health indicator

4- Systemic examination
VI- Special clinical examination

1- Special outer examination

1. Female secondary sexual character and general body conformation
Steer like appearance

Normal

Small vulva, large clitoris, long hair tuft
2. Inspection of the general behavior
3. Inspection of the external genitalia

Anomalies and size

Normal

Double vulva

Small vulva
Estrus

Prepartum

Vullovaginitis

Vullovaginitis
Position and degree of closure of the vulva

Normal

Oblique

Bartholin gland cyst
Presence of vulvar discharge

Estrus

Metrorrhagia

Prepartum discharge
Mucopurulent discharge
4. Inspection of the pelvic diaphragm and the tail

Normal

Prepartum

Ovarian cyst
5. Inspection of the udder
2- Special inner examination

2.1 Rectal examination (palpation)
Equipment and preparation of the owner
Restraining of the animal
Technique of examination
Rectal examination

Indirect traction
A. Examination of the cervix

. Anomalies

Aplasia
Duplication

Bended cervix
Size (external diameter) and texture

Normal

Small

Enlarged
Position and movability
B. Examination of the uterus

Anomalies

Uterus unicornis
Segmental apalsia
Size (diameter), symmetry

Infantile
nulliparous
Pluriparous
big uterus

Very big uterus
Too big uterus

Huge uterus
Thickness of the wall and content
Localized changing in texture of the uterine wall

Uterine wall tumor
Position and retractability
Contractility
C. Examination of the FT
D. Examination of the ovary
Anomalies

Aplasia

Hypoplasia

hermaphrodite
Ovarian size and consistency

Normal ovary

Large ovary (ovarian tumor)
Large ovary
(ovarian tumor)
Large ovary
(cystic ovary)
Small size ovary

Ovarian hypoplasia

Ovarian inactivity

Ovarian atrophy
Movability
Ovarian structure

Physiological structure
Pathological structure

Persistence CL

CL with lacune (CL cyst)
Ovarian cyst
2. Vaginal examination

1- Inspection  2- Exploration  3- Palpation
Color of mucus membrane

Rosy pink

congested
Degree of moistening and presence of abnormal discharge
Presence of special lesion in the mucus membrane
Presence of Bartholine gland cyst
Presence of fecal matter
Examination of the clitoris
2- Exploration

Vaginoscope

Vaginal speculum or stretcher
Difficulty to introduce the speculum
Exploration of the external cervical ose and vaginal mucus membrane

Anomalies
Shape of the portio vaginalis and color of mucus membrane
Presence of any discharge
Presence of vaginal or cervical cyst
3- Palpation
Ability to introduce the hand

Friction between the hand of the operator and vaginal wall

Presence of anomalies

Vaginal or cervical cyst

The degree of dilatation of the external cervical ose
Cytology-

Bacterial culture and sensitivity

Biopsy and histology
Rectovaginal technique
Estrous prediction

1- Record of the previous history

- Estrus
- Ovulation
- Follicular Wave
- Progesterone From C.L.
Estimation of the Stage of the Estrous Cycle by rectal or ultrasound examination
Days Relative to the Gonadotropin Surge

-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8

<table>
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<tr>
<th>Diestrus</th>
<th>Proestrus</th>
<th>Estrus</th>
<th>Metestrus</th>
<th>Diestrus</th>
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CL

Progesterone

PGF$_{2\alpha}$

Estradiol

FSH

LH

Ovulation

CA

Estradiol

Progesterone
Days Relative to the Gonadotropin Surge

Days: -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8

-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8

CL

Progesterone

PGF$_{2\alpha}$

Estradiol

FSH

LH

CA

Ovulation

CL

Diestrus

Proestrus

Estrus

Metestrus

Diestrus
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<tr>
<th>Ovarian Finding</th>
<th>Uterine Finding</th>
<th>Stage Cycle</th>
<th>Days of Next Estus</th>
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<tbody>
<tr>
<td>Regressed CL</td>
<td>Increasing the uterine tone</td>
<td>Proestrus 18-21</td>
<td>3-0 days</td>
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<td>Growing follicle</td>
<td></td>
<td></td>
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<tr>
<td>Mature DF</td>
<td>Tonic utreus</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>OVD</td>
<td>Tonic utreus</td>
<td>0-1</td>
<td>20-21</td>
</tr>
<tr>
<td>CHI</td>
<td>Edematous</td>
<td>1-3</td>
<td>18-20</td>
</tr>
<tr>
<td>CHII</td>
<td>Normal</td>
<td>3-5</td>
<td>16-18</td>
</tr>
<tr>
<td>CHIII</td>
<td>Normal</td>
<td>5-7</td>
<td>14-16</td>
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<tr>
<td>CLIII</td>
<td>Normal</td>
<td>8-17</td>
<td>4-13</td>
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