



CVE – AGMOOCS - TANUVAS



# LESSON V- DEFECTS OF CERVIX, VAGINA AND EXTERNAL GENITALIA

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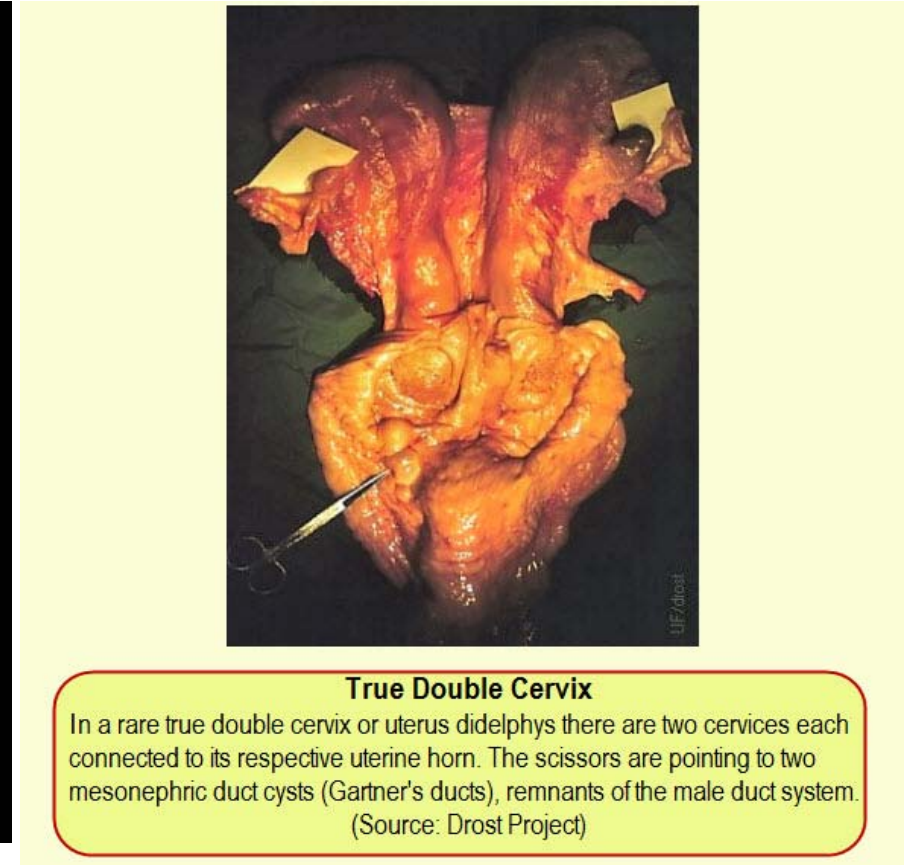
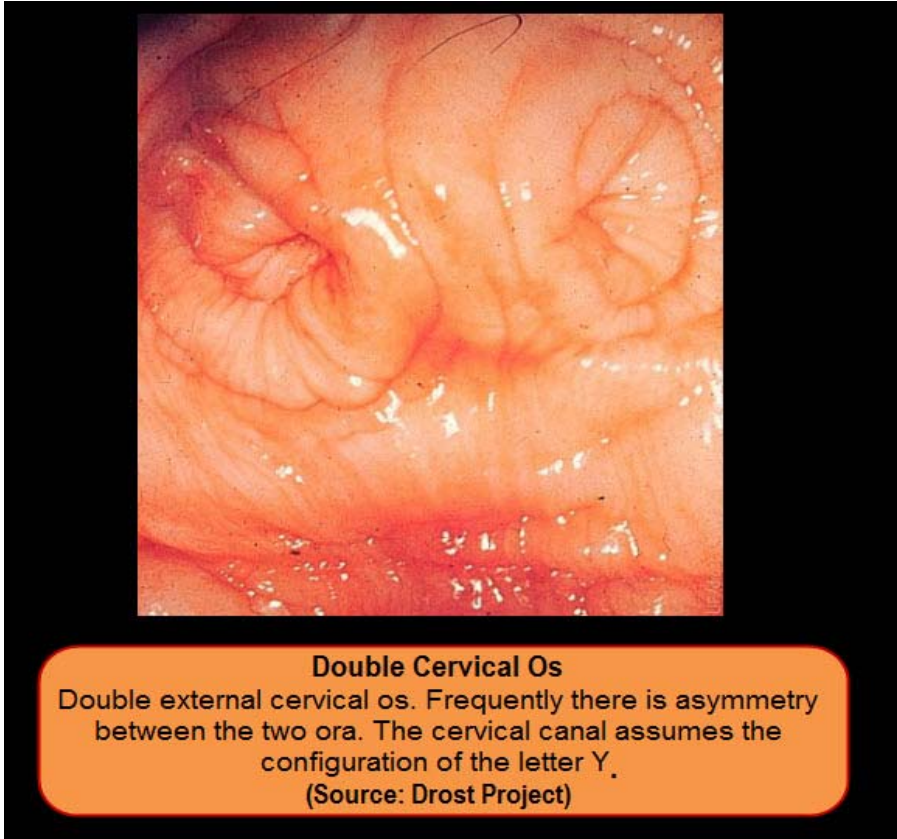
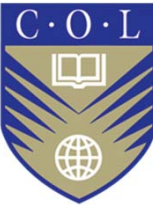


## DOUBLE EXTERNAL OS OF CERVIX

- In the condition of **uterus didelphys**, failure of fusion is complete, so there is a **double cervix**, and each uterine horn connects with the vagina by a separate **cervical canal**.
- Such animals may conceive, provided that insemination takes place into the horn ipsilateral to the ovulation
- A more common lesion is **partial duplication of the cervical canal, often with a single internal ostium and double external ostia**.
- Affected animals conceive normally but may show dystocia due to fetal limbs entering both cervical canals; the expulsion of the afterbirth may also be impeded.
- A similar complication may arise in cattle showing a dorsoventral post-cervical band.



# DOUBLE EXTERNAL OS OF CERVIX





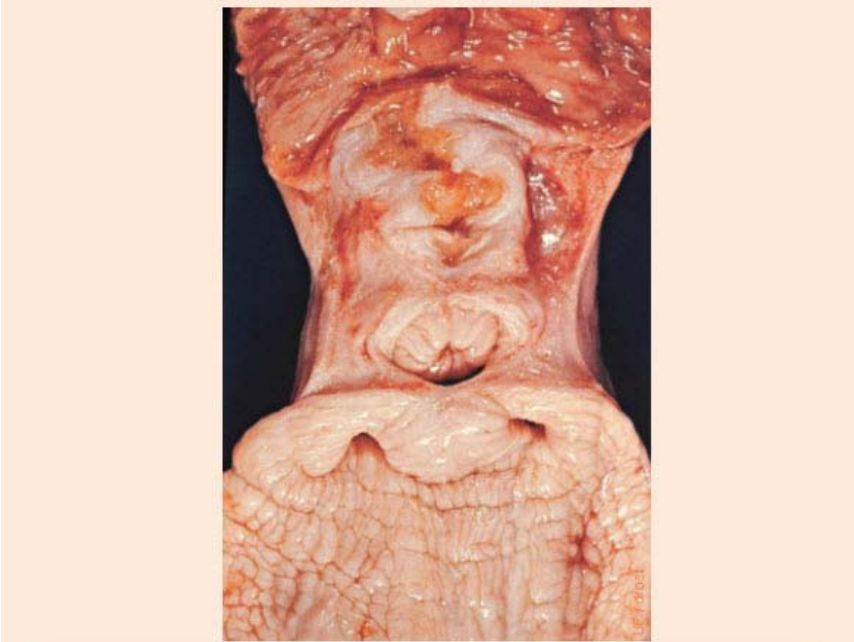
## DOUBLE PSEUDOCERVIX AND LACK OF CERVICAL RINGS



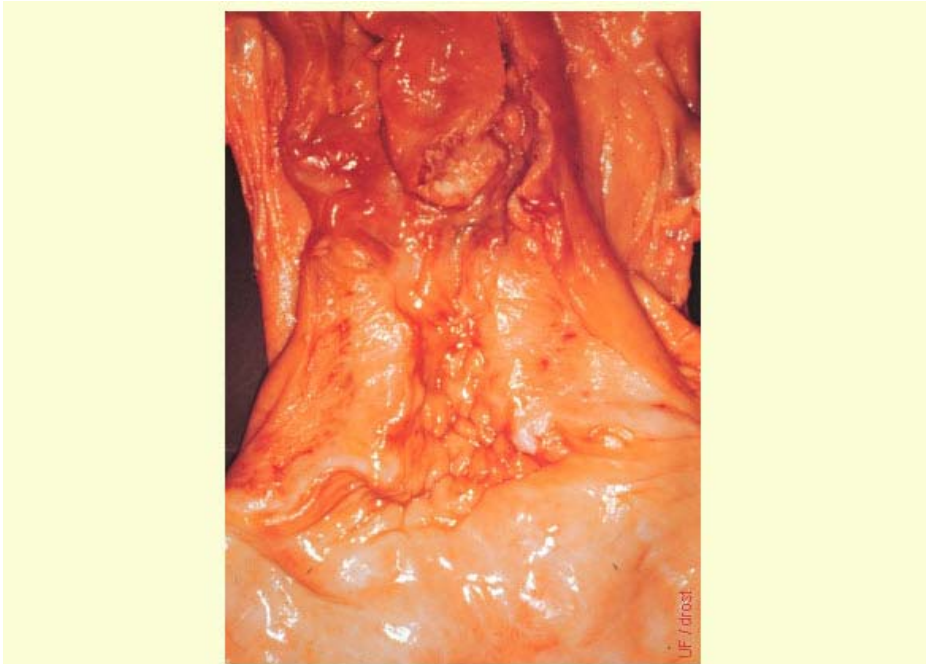
- Other anomalies of the bovine cervix may include:
  - **a short cervix with one or more transverse rings missing;**
  - **a lack of development of the cervical rings;**
- 1-3% of heifers may have a **tortuous, a sharply-curved cervix or a hypertrophied transverse cervical ring** so that an artificial insemination pipette may not be able to be passed.
- In heifers with a short or underdeveloped cervix, infertility is often due to an endometritis;
- The bent, tortuous or stenotic cervix often is filled with thick mucus and infertility may be associated with the inability of large numbers of spermatozoa to traverse the cervical canal.



# DOUBLE PSEUDOCERVIX AND LACK OF CERVICAL RINGS



**Double Pseudocervix**  
During embryonic development the anterior portions of the paramesonephric ducts failed to fuse, creating two pseudo external cervical openings which connected via an antichamber with the normal external os of the cervix. A rare specimen.  
(Source: Drost Project)

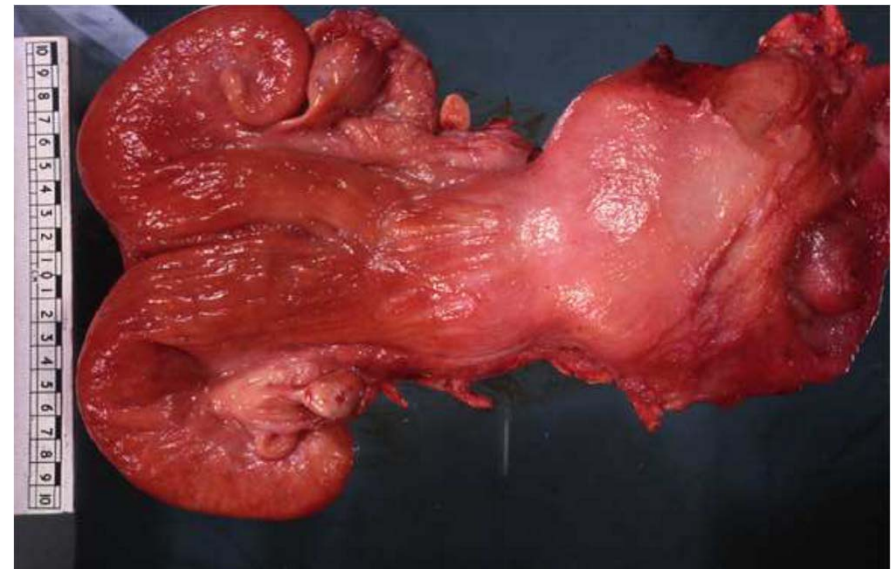
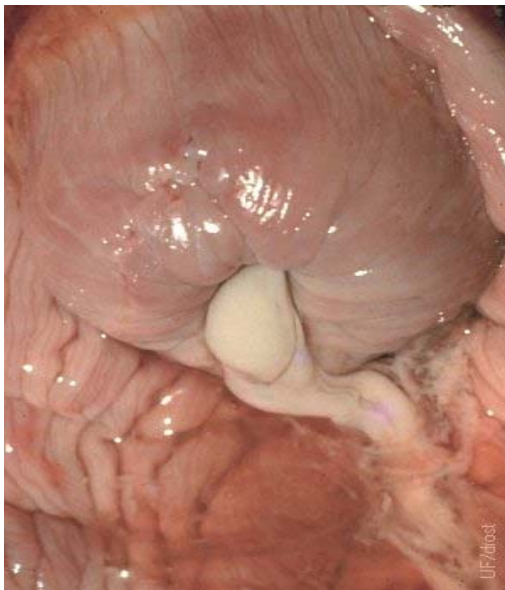


**Lack of Transverse Folds**  
Cervix of a heifer born without transverse folds (rings) of the cervix  
(Source: Drost Project).



## CERVICITIS AND FIBROMA OF CERVIX

- Cervicitis almost invariably accompanies **puerperal metritis, and is common in cases of delayed involution of the uterus and/or retention of the afterbirth.**
- Tumours of the cervix occur very occasionally.
- **Leiomyomas** and, to a lesser extent, **fibromas** are the most common





## DEVELOPMENTAL DEFECTS OF VAGINA



- Developmental defects of the vagina are largely limited to the **partially persistent or imperforate hymen**
  - obliteration of the caudal portion of the vagina, and
  - persistence of the median wall of the paramesonephric duct in the cranial portion of the vagina
  - Most commonly seen as a **fleshy band just caudal to the external os of the cervix or as a median septum extending 3 to 6 inches caudally resulting in a septate vagina associated with a double cervix.**
- These defects are also probably **hereditary in nature** although a few may be **congenital.**



## DEVELOPMENTAL DEFECTS-INFANTILE, HYPOPLASTIC VULVA



- **Rectovaginal Constriction (RVC), Anovestibular Stenosis or an infantile, hypoplastic, small vulva**
- The vulva was so small that at parturition a drastic episiotomy operation is required to enlarge it so that the fetus could be removed.
- Cesarean section may be necessary.
- Copulation and defecation can occur but rectal examinations in both bulls and cows and parturition in cows cannot occur and severe dystocia results.
- **Strong band of connective tissue-** causing stenosis or constriction- encircles both anus & vestibule.





# ABNORMAL WOLFFIAN OR GARTNERS DUCTS



- Abnormalities of Gartner's ducts which are **vestiges of the primitive Wolffian or mesonephric ducts in the embryo are rather common** in the cow.
- It is not known whether these defects are hereditary.
- In hyperkeratosis due to chlorinated naphthalene poisoning- the Gartner's ducts become greatly enlarged- due to metaplastic changes in the epithelial linings of the ducts.
- Normally these ducts are located beneath the mucosa of the floor of the vagina.
- They are 2 in number and are usually difficult to detect.
- **The duct may develop multiple cysts along its course toward the cervix or form a long, sometimes rather coiled, cord 0.5 to 1.5 cm in diameter distended with fluid.**



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# CYSTIC GARTNER'S OR MESONEPHRIC DUCTS IN THE FLOOR OF THE VAGINA

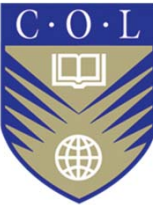


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## ABNORMAL WOLFFIAN OR GARTNERS DUCTS

- In rare instances, **infection of the duct may occur**, with small abscesses forming along its course.
- The ducts may be incised freely, if necessary, to correct these abnormalities but in most cases they are ignored as they do not affect fertility.
- There may be present in rare cases, **a cul-de-sac extending forward 5 to 7 cm on either side of the urethral opening.**
- This may be small and admit one finger or less; or it may be large admitting 3 to 4 fingers.
- This cul-de-sac represents an abnormally large terminus of Gartner's duct and may interfere with coitus.



## ATRESIA OF VULVA

- An abnormally small vulva has been described as a cause of dystocia in **Friesian and Jersey heifers**
- In such cases, **episiotomy or Caesarean** operation may be required to allow delivery.
- The defect has been seen to affect many of the progeny of a particular Jersey bull indicating that it is likely to be of **hereditary origin**.
- It is occasionally seen in newborn calves in conjunction with atresia ani.



# UROVAGINA



- **Vaginal urine pooling or urovagina-** urine accumulates in the anterior vagina-inflammation of both cervix and vagina.
- Extends into the uterus, causing endometritis.
- Stretching of the suspensory apparatus of the genital tract as a result of several pregnancies may be a factor.
- Diagnosed at the time of a post-calving examination



Urovagina



# TUMOURS OF THE VAGINA AND VULVA



- **Fibropapillomata** in cattle are common.
- **Lymphosarcomas**- occasionally found in the vagina.
- A **squamous cell carcinoma of the vulva** occurs in unpigmented areas of the skin of cattle that are exposed to high levels of solar radiation.
- **Warts and melanomas** are occasionally seen on the perineum.



Fibropapilloma in vulva



Lymphosarcoma of vagina

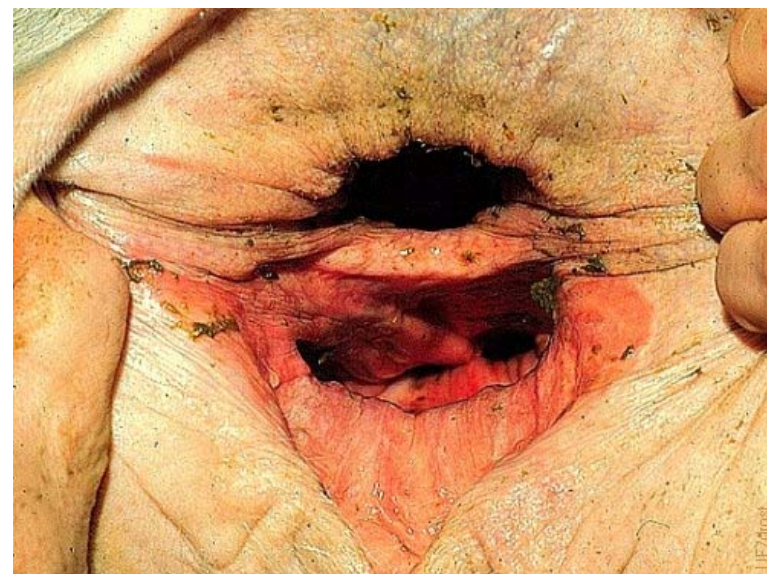


## ACQUIRED LESIONS OF THE VAGINA, VESTIBULE AND VULVA



### Obstetrical damage to the perineum

- **Lacerations of the perineum** - impaired fertility of affected cows.
- Second-degree perineal lacerations – pneumovagina if the conformation of the vulva is compromised.
- Surgical correction of such malconformation of the vulva is possible by performing **Caslick's operation**
- Dystocia and severe calving trauma -A third-degree **perineal rupture** at calving





# SUMMARY OF DAY 5 LECTURE



- Double External os of Cervix
- Double Pseudocervix and Lack of cervical rings
- Cervicitis and Fibroma of cervix
- Developmental defects of vagina
- Developmental defects-infantile, Hypoplastic vulva
- Abnormal Wolffian or Gartner's Ducts
- Atresia of Vulva
- Urovagina
- Tumours of the Vagina and Vulva
- Acquired Lesions of the Vagina, Vestibule and Vulva





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*Thank you*

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