

The Mammary Glands

Are modified cutaneous glands which are so , closely associated functionally with the genital organs as to be considered accessory to them.

In the mare, they are two in numbers and are placed on either side of the median plane in the **prepubic region** .

Each gland has the form of the cone shape , it consist of glandular mass or body of the gland and the papilla or teat.

The base is related to the abdominal wall to which it attached by areolar or loose connective tissue which contains a venous plexus the superficial inguinal lymph nodes and a variable amount of fat. The apex is constituted by the teat which is also flattened transversely and variable in length from 3-6 cm . Between the bases of teat is the intramammary groove. On the apex of each teat there are usually **two small orifices** placed closed together, these are the openings of the **lactiferous ducts**.

Structure

The skin covering the gland is thin , pigmented, chiefly hairless and supplied with numerous large sebaceous and sweat glands. Under this, are two layers of fascia, except on the teats, the deep fascia consist of elastic tissue, centrally two laminae

detached from abdominal tunics descend on each side of the median plane forming a septum between the two glands and containing their suspensory ligament.

The gland substance or parenchyma is pinkish, gray in color and of with a fat around the gland or within it . It is enclosed by fibro-elastic capsule which sends inward numerous trabeculae, these from the interstitial tissue and divide the gland into lobes and lobules and alveoli which unite to form the large ducts. Each lobe has a duct which opens at the base of the teat into a space called the lactiferous sinus and from this two or three lactiferous ducts pass through the extremity of the teat. These ducts are lined by anonglandular mucous membrane which covered with stratified squamous epithelium. They are surrounded by smooth muscle fibers.

The bulk of the fibers being arranged in a circular manner to form a sphincter. In the young subject, before pregnancy they are small and contain little gland tissue.

During lat pregnancy and during lactation, they increase greatly in size and the gland tissue is highly developed.

After lactation, the secretory structure undergo marked involution and the gland is much reduced in size.

Blood Vessels and Nerves

*The arteries are derived from the external pudic artery.

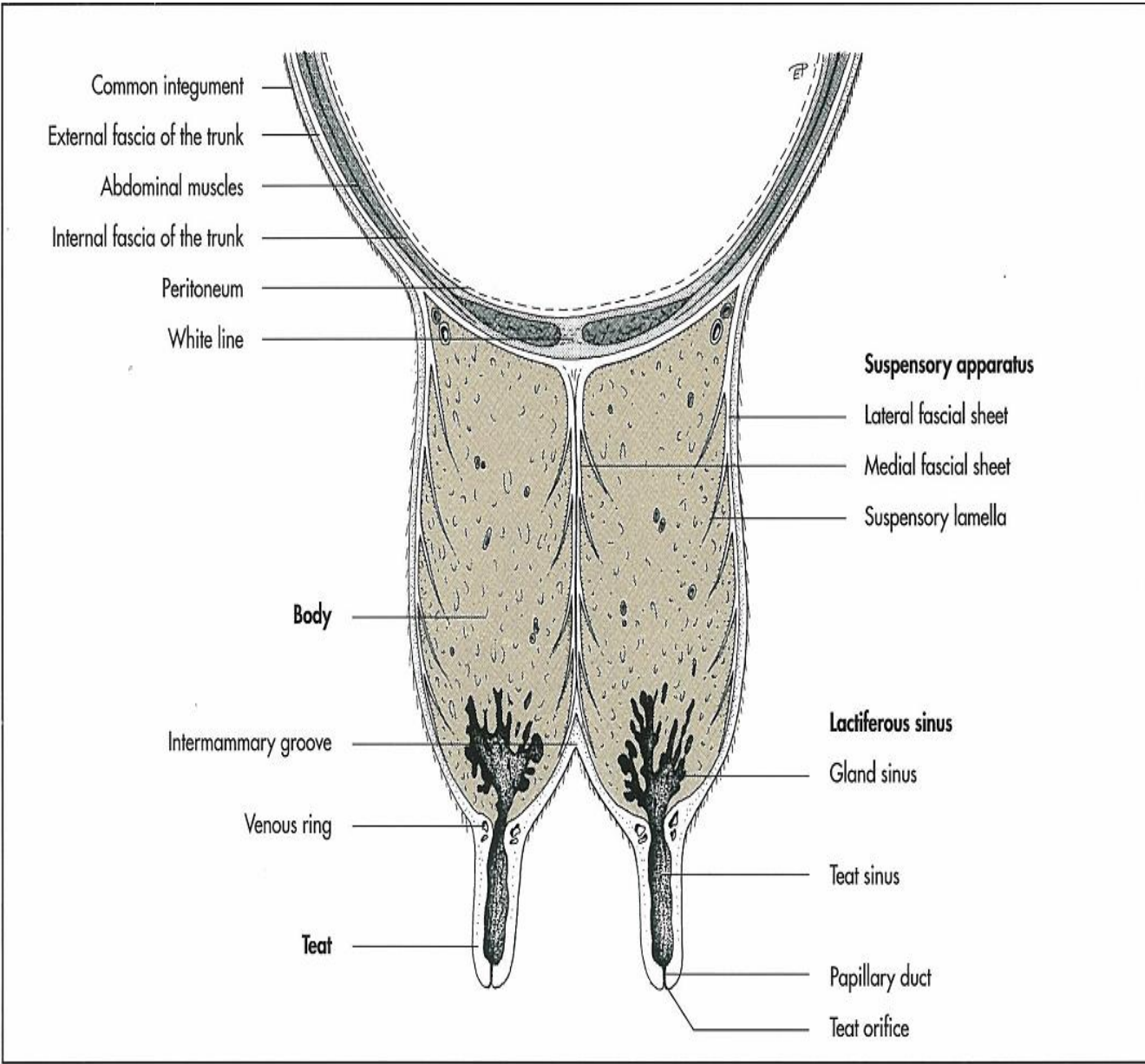
* The veins from a plexuses on either side of the base of gland which drain into the external pudic vein.

*** Lymph Vessels**

Are numerous and pass to the superficial inguinal lymph node.

*** Nerve supply**

Are derived from the inguinal nerve and the posterior mesenteric plexus of the sympathetic system.



The mammary glands in the cow

Are four in number and totally called udder they are very larger than in mare and the body is ellipsoid in form . The base is suspended to the abdominal wall by suspensory ligament, which extended to be attach to the symphysis pubis.

The sheet of tissues form a well – develop and median in position are chiefly yellow elastic tissue, the two glands are separated by this double septum.

The udder is consist of four quarters , there is no septum , no visible division between the two quarters of the same side, but injection of fluid of different colors into the two teats of the gland demonstrate that the cavities drained by them do not communicate.

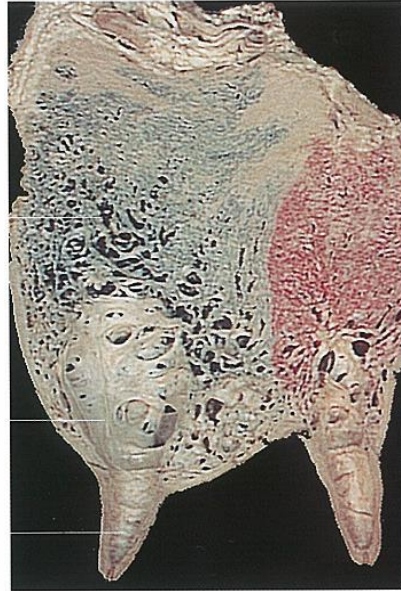
Each teat has a single lactiferous duct which wider superiorly into a roomy lactiferous sinus, collectively known as milk cisterna. The lower part of the duct, the outlet is narrow and is closed by a sphincter of smooth muscle and elastic tissue.

Mammary body

Lactiferous sinus

Gland sinus

Teat sinus

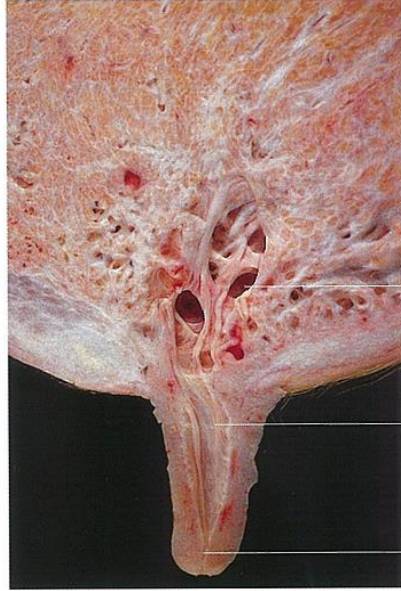


Lactiferous sinus

Gland sinus

Teat sinus

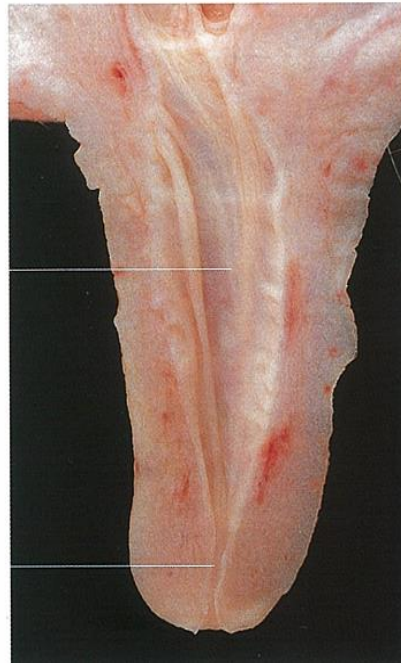
Papillary duct



Lactiferous sinus

Teat sinus

Papillary duct



Lactiferous sinus

Teat sinus

Papillary duct



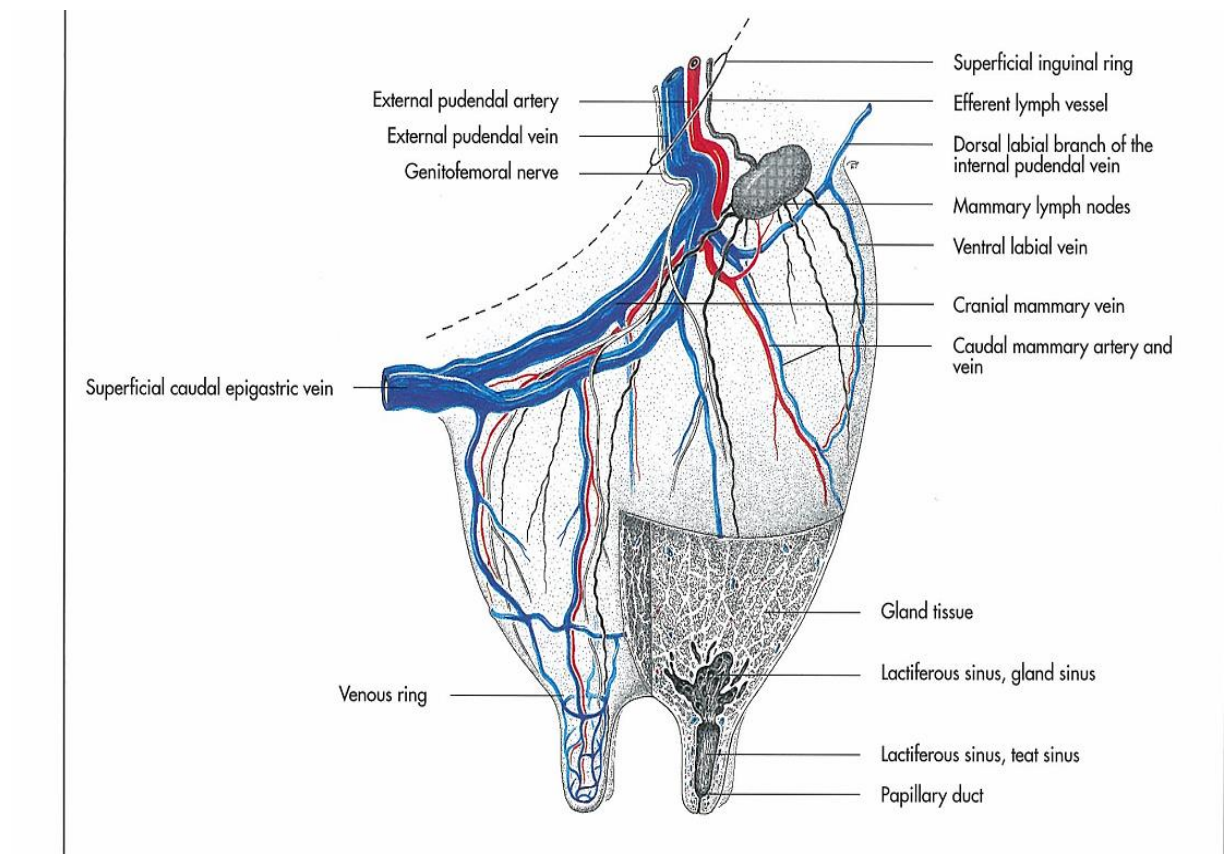
Blood Vessels

The arteries is from external pudic artery and peritoneal arteries .

Veins __ from circal at the base of the udder from which the blood is drained by three trunks .

Lymph vessels are numerous and passes to the supramammary glands chiefly.

Nerves are from inguinal and the posterior mesenteric plexus of the sympathetic.



In the sheep

The number of teats are two

In the Bitch

Are ten in number arranged in two series extend from the **posterior part of pectoral region to inguinal region** , so designed in its location into pectoral, Abdominal and inguinal .

Teats are containing 6-12 a pieces orifices per each teat.

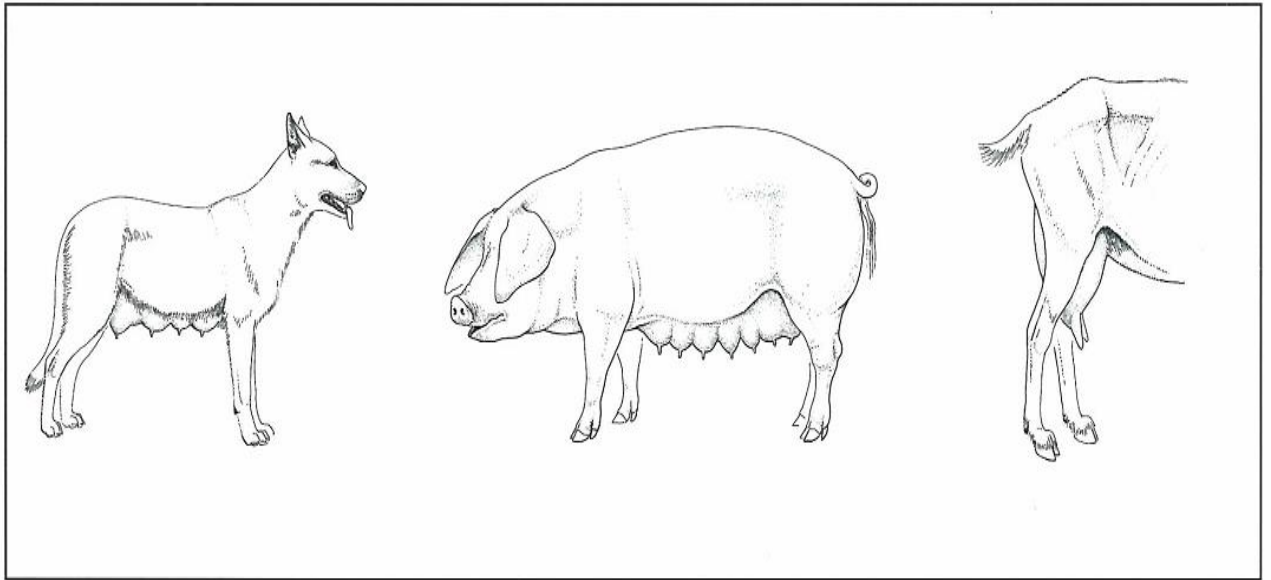


Fig. 18-20. Mamma of the bitch and sow, udder of a she-goat, schematic.

