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Paston Cooper, 1840

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On the anatomy of the breast - Of the structure of the gland in the male

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OF THE STRUCTURE OF THE GLAND
IN THE MALE.

I SHALL next proceed to examine the minute structure of the mammary gland in the male, which, as far as I am informed, has not been hitherto closely investigated.

The gland is placed immediately behind the base of the nipple or mamilla.

It varies extremely in its magnitude, in some persons being only of the size of a large pea, in others an inch in diameter, and I have seen it two inches or rather more, and then it reaches even beyond the margin of the areola.

Its consistence is very firm, and it often bears a striking resemblance to an absorbent gland.

It is rounded at its basis where it sinks into the fibrous and adipose tissue, and gradually lessens at its apex, where it ends in the mamilla or nipple.

In its circumference it is rather lobulate, forming depressions, giving it a melon-like appearance.

The gland is constituted of two parts,—first, of very minute cells, and secondly, of small conical ducts which divide into numerous branches in the gland, and terminate in straight ducts which end in very minute orifices at the nipple. In their form, in their divisions, and in their course through the

nipple, they all form a miniature resemblance of the gland and vessels of the mammary gland in the female.

In *Plate 1*, figs. 9, 10, 11, 12, 13, 14, and 15, are views of the injected ducts from my preparations.

Fig. 9 shows the minute cells from which a duct is springing, and it becomes larger as it approaches the nipple so as to be conical towards the basis of the gland. It then becomes conical in the other direction, terminating in a straight tube, but with its orifice turned towards the surface of the nipple.

In fig. 10, four ducts are seen injected from the cells in which they originate, to the nipple in which they terminate, and the same may be seen in fig. 11.

In fig. 12, two ducts are seen, and some of the branches of the ducts are placed at right angles with each other.

In fig. 13, four ducts and their cells are injected, and a section has been made of the gland from the apex of the nipple.

Fig. 14 shows the cells and three ducts injected, with two absorbent vessels, arising from the cells.

Fig. 15 has only one duct injected, and that only partially.

The gland is not situated loosely in the cellular membrane, but is confined by, and enclosed in, a fascia which renders it a separate organ from the surrounding parts.

This fascia, traced, as in the account of the female, from the sternum towards the breast, where it reaches the margin of the gland, divides into two portions, one of which passes upon the anterior surface of the gland, to reach the nipple, and from its anterior surface ligamenta suspensoria are seen in *Plate 1*, figs. 6, 7, and 8, to the inner side of the skin, upon which they spread, and are lost.

Between the ligaments, lobes of fat appear, interposed between the fascia and the skin, and covering the gland; and these lobes of fat are enclosed in their proper membrane, which forms minute cells, in which the fat is secreted.

Behind the gland, in *Plate 1*, figs. 7 and 8, the fascia is also seen crossing the back of the gland anteriorly to the aponeurosis of the pectoralis major muscle: in its course, it sends fibres into the gland, to connect its cells, lobules, and ducts; and it sends a fibrous structure backwards to the aponeurosis pectoralis, to fix the gland in its position. In *Plate 1*, fig. 8, lobes of fat will be seen in the substance of the gland, or rather between its cells and ducts; for there is a larger proportionate quantity of adipose membrane and fat in the male than in the female. Many lobes of adeps are also observable in the fibrous tissue behind the breast, and between it and the aponeurosis of the greater pectoral muscle. *Plate 1*, figs. 7 and 8.

It will therefore be seen that the gland in the male, like that of the female, is a regular organ, included and intersected by a fibrous tissue; that it is composed of cells and ducts, which are not too minute to be injected, although with difficulty.

The cells are placed in lobules, which do not communicate with each other but through the medium of branches of the principal ducts, but not by any lateral communication.

The ducts are not confined to the part of the gland at which they enter, but are spread out from the centre to the circumference, sometimes crossing each other, and they extend to the margin of the gland.
