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On the anatomy of the breast - Of the evolution of the breast

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OF THE EVOLUTION OF THE BREAST.

In the fœtal state the mammary gland is found opposite to the future nipple, rounded, embedded in the adipose tissue under the skin, and from the redness of its colour and high vascularity, it is easily distinguished from the surrounding parts, forming a circumscribed and very distinct body.

Whilst in this state the nipple is cleft, and there is a cavity in it rather than a prominence, but the cavity is surrounded by broken papillæ.

From the cavity a white and rather solid secretion can be squeezed, which nurses are in the habit of doing with considerable force soon after the birth of the child; they fear that its accumulation will occasion inflammation, and they use an improper manipulation likely to excite it; a sponge and warm water are all that is required.

This gland is very vascular, and is readily injected by injecting the fœtus generally.

The nipple contains ducts which I have injected with mercury. The greatest number which I have injected has been six, but there are probably more.

This gland exists in the male as well as in the female, as I shall in future show. *See Plate* 1 *of the Male.*

Immediately after birth a section of the gland still appears of a red colour, and is rather larger than in the fœtus.

For twelve months it remains a rounded body about the size of a large pea, still distinguishable by its colour from the surrounding parts.

The best mode of seeing it is by making an incision through the nipple and centre of the gland, to the aponeurosis of the pectoralis major, in a full-grown fœtus.

After twelve months, it loses much of its colour, and it requires minute attention to dissect and develope it, so as clearly to make out its character.

Examined at from two to three years of age, the breast appears separated from the surrounding cellular tissue, from its being enclosed in a fascia which not only covers both its surfaces, but enters into its composition; and by this mode of investing it, renders the gland a distinct and separate organ.

It is covered by the two layers of fascia, as in the adult state, one passing before the gland, to connect it with the skin, and one behind it, to join it with the aponeurosis of the pectoralis major.

I have given views of the appearance of this gland, at three, at four, at six, and at nine years; at which ages it will be observed to differ but little, excepting that at nine years it is less rounded in its figure.

The nipple is a cleft or cavity in the fœtus; but soon after birth it becomes a cone, and an areola appears around it, which increases but little to the ninth or tenth year, when it becomes somewhat larger, and not quite smooth upon its surface.

At twelve years, the nipple is rounded, and the areola becomes prominent, and generally small glands appear upon its surface, and at its margin, where it is connected with the surrounding skin.

At fourteen years, the nipple is still more increased, small clefts appear between the papillæ, which begin to evolve. The areola rises a little around the nipple, from the evolution of the gland behind it. The colour of the nipple is now of a bright red; that of the areola a little darker; and the roundness and prominence or intumescence of the breasts appear.

At fifteen years, a cleft often exists instead of a nipple, and in this cleft the orifices of the milk tubes are concealed.

At sixteen years, the nipple and areola are much evolved, and the former is divided on its apex into numerous papillæ. The areola is of a darker red.

At seventeen years, the nipple is evolved, and fitted for its future office. The areola is more than an inch in diameter, and its tubercles and glands are very large. A few straggling hairs appear.

At twenty, the appearances are much the same as at seventeen years.

At puberty, the mammary glands enlarge, and become prominent, and the breasts assume their roundness, intumescence, and agreeable form, the beauty of which is heightened by the rosy colour of the nipple and areola, and the meandering of the veins under the firm snowy whiteness of the skin, giving it altogether a marbled appearance.

It is not merely the gland that grows, but the fat which is added to the cellular tissue gives to the breast a part of its additional prominence.

When puberty commences, the nipple is surrounded by an intumescence from the evolution of the gland around it, and behind the areola; and another intumescence appears from the evolution of the breast around the areola, forming the mass of the gland.

With respect to the changes in the gland itself, they are as follow:—

At the ninth year, the gland increases in its diameter, and forms a thin margin under the skin.

At eleven and twelve, the diameter of the gland is greatly increased.

At thirteen years, it is rather concave upon its anterior surface: its edges are turned up, the cause of which is, that

the breast grows faster than the ligamenta suspensoria; and it sends forth its processes, which unite with the ligamenta suspensoria; and fix them to the skin: the glandules also appear. *See Plate* 2.

At fourteen, the growth has been very considerable; the diameter of the gland is much increased.

At sixteen, the breast is seen greatly evolved; and at this period some of the lactiferous tubes can be injected.

At twenty to twenty-one, the gland has obtained its full size before lactation. The two layers of fascia are perceptible, with the ligamenta suspensoria going to the skin upon the fore-part of the gland, with the fat between them, and the posterior layer of fascia passing to the back of the gland, and to the aponeurosis of the pectoral muscle. *See Plate* 2.

In the adult state, and about the middle age, the colonr of the nipple is of a brownish red, and that of the areola a little darker. The gland is distinctly lobulated, and its parts move more freely upon each other than at the earlier periods of its evolution.

It appears, then, that in infancy the rudiments of the future gland are formed, and that at puberty a sudden and increased determination of blood to the part, evolves those rudiments into the beautiful organ that I am now attempting to describe.