PLASMA-CELL MASTITIS

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This paper reports a case of plasma-cell mastitis of the female breast. The low incidence of the disease had been stressed by several authors (Cromar and Dockerty, 1941). Plasma-cell mastitis is an interesting and not too common condition of the breast; about 50 cases had been reported up to 1949 (Cutler). Its importance lies in the fact that it resembles carcinoma on gross clinical and macroscopic examination. It is an inflammatory condition of the non-lactating breast and is usually found in women near their menopause.

It is accompanied by pain and tenderness of variable degree. The skin becomes inflamed and very often there is a discharge from the nipple. Soon the redness and tenderness disappear and it presents as a hard lump attached to the overlying skin with retraction of the nipple, when a difficult diagnostic quandary arises.

On section it is composed of fibro-fatty tissue with numerous dilated ducts and areas of induration resembling carcinoma. Histologically the most characteristic findings are an acute or sub-acute inflammatory exudate consisting chiefly of plasma cells (Fig. 1). The exudate is prominent around the ducts and acini. The histological appearances may be similar to that in tuberculosis. Giant cells and epithelioid cells may be arranged as in the tubercle, but there is no caseation. Giant cells are usually of the foreign body type and are sometimes seen to surround a mass of acicular crystals, forming a radiating network—the 'giant-cell rosettes' of Matthew Stewart (Rodman and Ingleby, 1939) (Fig. 2). The epithelium lining the cysts and ducts may be absent, deficient or intact or may show proliferation. They may contain desquamated epithelial debris or fatty material and may be invaded by inflammatory granulation tissue or exudate (Figs. 3 and 4).

Case Report

Patient aged 35 was admitted on 14.10.57 with a fulminating abscess of the left breast and high fever. She was in the seventh month of pregnancy. On examination she had all the signs of an acute

FIG. 1.—Inflammatory cell exudate with plasma cells predominating. Haematoxylin and Eosin. $\times 330$.

FIG. 2.—A 'giant-cell rosette.' H. & E. $\times 160$.

FIG. 3.—Inflammatory exudate and granulation tissue around the ducts and acini, and the ducts with intact epithelium are seen to contain fatty material—cholesterol. H. & E. $\times 50$.

FIG. 4.—Epithelial lining and lumen of the ducts being invaded by exudate and granulation tissue. H. & E. $\times 75$.

abscess and was operated on the same day. At operation there was thick pus in the left breast, which was drained. After a course of antibiotic therapy she was discharged on 5.11.57. On this occasion no specimen was taken for histological examination, as the signs and symptoms were that of an acute abscess.

She was readmitted on 19.11.57, with pain and swelling of the same breast of four days' duration.

On examination the breast was swollen, red and indurated. There was a sinus (wound of previous incision) with discharge from it. The nipple was retracted and the axillary glands were palpable and tender, but were freely movable. She had no fever and she was treated with antibiotics. A clinical diagnosis of suppurating abscess was made. Five days later the breast was incised. The area appeared cystic and there were multiple sinuses. A portion of tissue from the wall of the abscess was sent for histological examination. At operation a diagnosis of chronic cystic mastitis was made. She was transferred to the maternity hospital on 19.12.57 and was asked to return after her confinement.

Pathologist report. There is evidence of infection with suppuration, but there is also heavy infiltration with plasma cells and many giant cells are to be seen. This may possibly indicate plasma-cell mastitis.

Comment

The pathogenesis of plasma-cell mastitis is obscure. Rodman and Ingleby (1939) suggest that the disease may be due to the action of enzymes causing splitting of milk-like substances secreted in certain conditions in the breasts of non-pregnant women. It is possible that it may be due to chemical irritation rather than to bacterial action, and appears closely allied to such conditions as infected galactocoele and chronic lactation mastitis.

Clinical differentiation from carcinoma is at times difficult, for many of the signs of carcinoma are present. The varieties of cancer which bear a close resemblance to plasma-cell mastitis are inflammatory carcinoma and diffuse duct carcinoma. Although in the early stages an inflammatory carcinoma may resemble plasma-cell mastitis, the skin becomes thickened in an irregular ridge-like fashion due to involvement of the subdermal lymphatics by carcinomatous invasion (Cutler, 1949). In diffuse ductal carcinoma the breast is diffusely invaded, the tumour margins are not easily definable and the skin of the entire breast is oedematous and thickened. The condition is progressive rather than regressive. A knowledge of a previous history of inflammation, if forthcoming, is helpful in arriving at a diagnosis. Other benign lesions from which it has to be distinguished are traumatic mastitis, chronic lactation mastitis and infected galactocoele. At the onset the disease may be mistaken for an abscess, as in our case, and treated as such. It is a benign condition, though many authors claim that it has malignant potentialities.

As regards treatment, irradiation in the acute and subacute stages and removal of the affected area to the more chronic stages have been suggested.

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FIG. 1.—Typical pelvic fracture complicated by urethral injury, showing displacement of the symphysis pubis.

Conclusion

Certain quite dogmatic conclusions can now be drawn from comparison of these two series of cases:

(a) The commonest uncomplicated fracture of the pelvis appears to be that of fracture of both pubic rami on one or other side.

(b) Rupture of the posterior urethra is associated with the more severe types of pelvic fracture, particularly those showing gross injury to the symphysis pubis and pubic rami.

(c) Rupture of the urethra is most likely to occur when there is much displacement of the two halves of the symphysis pubis, in which injury, both a stretching and a shearing force is exerted on the organ. If rupture is associated with simple separation of the symphysis pubis only, then such separation must apparently be quite wide.

(d) In a smaller proportion of fractures, rupture of the urethra may occur without any disruption of the symphysis pubis, and is then due to damage by spicules of bones, produced by fractures of the pubic rami, close to their junction with the symphysis pubis.

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FIG. 2.—Uncomplicated multiple fractures of the pelvis, in which the symphysis pubis is not disturbed.

FIG. 3.—Another uncomplicated pelvic fracture with no displacement of the symphysis pubis.

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