ENDOMETRIOSIS IN ABDOMINAL SCARS FOLLOWING CAESAREAN SECTION*

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The occurrence of endometriosis in bizarre locations, not readily explanable by accepted theories, is not infrequently observed clinically and poses diagnostic problems. Endometriosis of abdominal scars, following caesarean section, is one such example.

The first account of this lesion was given by Von Franque, in 1916. Since then many more cases have been added by various authors (Nora *et al.* 1956; Field *et al.*, 1962 and Steck & Helwig, 1965). Endometriosis following term or near term caesarean section is found in one and a half case per thousand or about one fifteenth as often as endometriosis in scars from other uterine abdominal operations. (Nora *et al.* loc. cit.)

The purpose of the present communication is firstly to emphasise the rarity of endometriosis in caesarean scars and secondly to focus the attention on the various pathogenic mechanisms for its causation.

CASE REPORT

Mrs. S. S., aged 35 years, was admitted to the Surgical Wards of S. N. Hospital, Agra, on 9-3-1969 with the complaints of a gradually increasing abdominal lump which had lately become painful. The lump had appeared in the scar of caesarean section which she had 9 years ago. The lump appeared in the scar some years after the operation.

On local examination there was a subumbilical paramedian scar. In the middle of this scar there was an oval, hard, irregular, partly fixed lump approximately 2 cm. x 1 cm. in size. This lump was in the abdominal wall and was partly fixed to the muscles. The overlying skin revealed slight bluish colouration. Her Hb. was 11.5 G. %, B.P. was 128/76 mm. of Hg. Systemic examination was normal. On retrospective interrogation there was no relation between the size of the lump and menstruation.

OPERATION

An elliptical incision was made and the lump was excised in toto. The lump was found attached to the anterior rectus sheath and was also tethered to the rectus muscle. At the time of operation, the lump was thought to be a soft tissue tumour, keeping desmoid tumour as the likely possibility.

PATHOLOGICAL FINDINGS

The excised specimen consisted of an elliptical piece of pigmented skin with subcutaneous tissue enclosing a nodular mass of tissue measuring 2.5 cm. in diameter. The mass was hard and greyish-white in colour with few pinhead sized brownish central cores.

HISTOPATHOLOGY

Microscopic sections revealed the stroma to consist of a fibro-collagenous connective tissue and islands of endometrial glands, surrounded by small ovoid endometrial stromal cells (Fig. 1). The

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glands were lined by tall columnar non-secretory epithelial cells (Fig. 2). The histopathological diagnosis was endometriosis in the scar tissue.

Discussion

External endometriosis is the condition in which tissue similar to the uterine mucosa is found in tissues outside the uterus. The condition often affects the pelvic structures but may involve other parts including the skin.

Steck and Helwig (1965) have reported 26 cases of endometriosis in caesarean scar in a series of 82 cases of cutaneous endometriosis and suggested investigation of the biological forces that promote the cells to flourish at these precise spots. In the surgical records of S. N. Hospital, Agra, over the years 1964 to 1969, the authors encountered only 2 cases, including the present case.

The pre-operative diagnosis of these cases is difficult in view of the rarity of the condition. Clinically, our patient presented with a solid lump in the paramedian caesarean scar of a year's duration. Except for the history of a caesarean section 9 years back, there was nothing else in her menstrual history to clinically warrant a diagnosis of endometriosis in the scar. The authors attach importance to this finding because hard masses in the abdominal wall are generally considered soft tissue tumours which are comparitively more common than endometriosis in surgical scars. In our case a clinical diagnosis of a soft tissue tumour with the possibility of a desmoid tumour, was made till histological examination confirmed endometriosis. It is suggested that endometriosis should be thought of more specifically in a patient having a previous caesarean scar and who subsequently develops a lump in relation to it.

The pathogenesis of external endometriosis has been exhaustively studied by Ranney (1948) and Gardner *et al.* (1953). Two main views exist regarding the pathogenesis of external endometriosis, viz. transplantation and local origin theories. The most convincing local origin theory of coelomic metaplasia follows the embryological studies by Gruenwald (1942). The embryonal coelonic cells provide or contribute to the parent tissues of the pelvic organs, peritoneum and other structures. Some degree of pleuripotentiality is retained by the cells of these organs and under proper circumstances, these cells give rise to tissue resembling endometrium. According to the transplantation theory, endometrium is carried from the uterus to an abnormal location where it proliferates. The cells shed during menstruation are regurgitated through the fallopian tubes and are implanted on the peritoneal surface or perhaps metastasis via lymphatics and/or blood stream takes place. Lesions in surgical scars result from mechanical transplantation of the endometrium during operation.

The data of the case presented here seems to support the transplantation theory. The points in favour being:

(a) Endometrial implants have been proved to be viable in human (Haselhorst, 1933) and animal experiments (Scott and Te Linde, 1954).

(b) Viable implants have been successfully transplanted in scars in chest (Harbitz, 1934).

Summary and Conclusion

A case of endometriosis in a caesarean scar has been presented and the relevant literature is reported. The following points are specially emphasised:

1. Endometriosis in caesarean scars is a rare clinical entity. Because of its rarity, it is misdiagnosed as a skin or soft tissue tumour.

2. The transplantation theory of external endometriosis appears to support our case.

3. Endometriosis in a caesarean scar should be kept in mind while discussing the differential diagnosis of such a case.

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See Figs. on Art Paper III