ENDOMETRIOSIS: A CAUSE OF INTESTINAL OBSTRUCTION.

By F. J. Morrin.

The endometrial tissue undergoes the most profound physiological changes throughout the sexual life of woman. Its cells are constantly activated in response to follicular and luteal hormones. Abundant evidence exists of its capacity to protect and vitalise the developing ovum despite nutritional defects, metabolic disease or microbial infections during pregnancy. The survival of the species is in fact dependent on the vitality and resistance of this tissue, while its power of survival despite adversity has been successfully utilised in the laboratory for experiments in tissue transplantation.

It is not surprising, therefore, that islets of endometrium accidentally detached from the parent tissue in the body should survive and, once survival has been established, it is only reasonable to expect that these islets should undergo similar cyclical changes to the parent uterine endometrium during menstruation, pregnancy and the menopause.

This condition, known as endometriosis, has increased considerably since Sampson drew attention to it in 1921; some gynecologists now report an incidence of over 30 per cent. The islets of ectopic endometrium or endometriomata occur in the pelvis, on the ovary or on the pelvic peritoneum, in the recto-vesical pouch or on the sigmoid and ileum, that is, those portions of the bowel most apt to lie in contact with the ostium of the Fallopian tube and the ovary.

Endometriomata are occasionally found in the abdominal scar of a previous operation. At operation the uterus or tubal mucosa has been opened and the occurrence of the tumours in this situation can only be regarded as a successful though accidental attempt at tissue transplantation.

Despite their ubiquity, metastases of those interesting growths do not appear to occur, although one case is reported where endometrial tissue appeared on the radial surface of the forearm in a young girl (Navratil). Phillips and Morson reported its occurrence in the bladder, and endometriomata in the umbilicus have been also recorded. (Tausch, Nicholson et al.).

Although the unique feature of these growths is that they represent a non-malignant invasion by normal tissue, apparently on occasion they may become malignant. Hauser reported a case where microscopic examination disclosed that the endometroid tissue was in transition to a medullary carcinoma; he refers to two other reported cases. Hosoi and Meeker reported an endometrial carcinoma of the transverse colon. It is certain, however, that the span of life of those tumours is governed by the ovarian hormones and that it is terminated when the menstrual function ceases. It may be assumed that the danger of malignancy is not excessive, and as there is no particular tendency for them to undergo malig-
nant change, radical surgical measures when dealing with them are not imperative.

The etiology of endometriomata remains a subject for discussion. It is suggested that, apart from implantation endometriomata, two types of patient are liable: (a) those who are normal, but in whom marriage and pregnancy are delayed, and (b) those who have pelvic maldevelopment of some kind.

The celomic epithelium is the precurser of the Mullerian ducts from which the uterus, tubes and peritoneal covering of the ovaries are derived.

According to Iwanoff and Meyer, the stimulus of oestrin and progestin in the patient with pelvic underdevelopment may stimulate rests of celomic epithelium when interruption of menstruation does not periodically occur with pregnancy.

Sampson, on the other hand, to whom may be credited the general recognition of the condition, asserted that these growths occurred from the reflux of menstrual blood expelled through the Fallopian tube, which carried with it endometrial islets. These islets become implanted on the nearest peritoneal surface, namely, the ovary, pelvic peritoneum, sigmoid or ileum.

Reflex of menstrual blood may occur (i) as a consequence of obstruction to the normal outflow, for example, by a polypus or retroversion, etc., or (ii) by operative interference and gynecological manipulation.

The concrete facts indicated by the history of the patients and the sites of occurrence suggest that no fancy thesis of embryological stimulation is required to explain their causation, but that the majority of endometriomata are produced by therapeutic manipulation or surgical interference.

Ovarian tissue appears to have a special predilection for endometrial implants. Situated at the fimbriated end of the tube, and in intimate contact therewith, the ovary is subjected to the first invasion of the migrating cells. It is probable that some grafts die, but some "take" and develop into glands and tubules of endometrial tissue which usually react to menstruation, and as a consequence, superficial or deep haematomata of endometrial type may occur (chocolate cysts). If rupture of those cysts takes place, a fresh burst of endometrial cells is liberated and secondary peritoneal growths originate. These peritoneal implants are not obvious in the early stages, and are easily overlooked.

It is difficult to ascertain the exact incidence of endometriosis, but all reports agree that it is increasing since attention was drawn to it in 1921. Obviously it is a condition that is seen most frequently by the gynecologist, but the case here reported, together with the series of cases referred to by Gleeson and Thornton, Cattell, Mouat, Josefson, Mayo and Miller, with many others, indicate that its manifestations are not confined to a narrow specialist field. On the contrary, it may on occasion become an unexpected and dangerous intruder in the larger domain of abdominal