Pelvic Angiography in the Management of Malignant Trophoblastic Disease

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One-hundred pelvic angiograms were performed between 1961 and 1964 at University College Hospital Ibadan during the investigation of malignant trophoblastic disease [neoplasia—Ed.] (M. T. D.). Fifty-seven examinations were performed to establish the diagnosis, which was confirmed in 41 patients. Twenty-six of these patients had a total of 43 followup angiograms while under treatment.

Previous communications from this hospital have described the use of pelvic angiography in the diagnosis of trophoblastic tumours (COCKSHOTT, et al., 1964; HENDRICKSE, et.al., 1964). This communication describes certain further clinical and diagnostic features, and discusses the value of serial pelvic angiography in patients receiving chemotherapy.

Advantages of pelvic angiography

Uterine curettage in patients with suspected M. T. D. carries the risk of disseminating the growth and causing tumour-tissue emboli to reach the lungs. Furthermore, curettage may produce such severe haemorrhage that emergency hysterectomy may be necessary — a procedure which is nowadays otherwise seldom indicated in cases of M. T. D. as a result of the success of chemotherapy. Apart from the direct hazards of diagnostic curettage in this condition, the interpretation of the findings may be difficult, a negative histological report may merely mean that the tumour does not communicate with the uterine cavity and has therefore been missed by the curette.

We have found pelvic angiography to be a very useful diagnostic procedure when the disease has been suspected clinically, and raised chorionic gonadotropin levels have been found in the urine. Indeed, M. T. D. has been demonstrated by pelvic angiography in 5 patients with histologically normal curettings.

Angiographic appearance of M. T. D.

A constant feature of the arteriogram of patients with pelvic deposits of M. T. D. is dilatation of the vessels supplying the uterus and the adnexa. The initial films show enlargement of one or both uterine arteries to beyond 1 millimetre in diameter: the ovarian arteries may also be
enlarged. The uterine arteries may show an increase in the amount of redundant coilings, particularly before they reach the lateral border of the uterus. (Fig. 1a, b.) The degree of separation of the uterine arteries and the length of the ascending portion along the lateral borders of the uterus indicates the size of the piliary staining is barely discernable. (Fig. 1c, d.)

In most cases of M.T.D. a functional arterio-venous shunt develops through the tumour deposits, and sometimes this may be sufficiently developed for contrast to appear in efferent veins in the early phase of the examination when the arteries are

![Fig. 1. Initial arteriogram. A Arterial phase showing enlarged redundant uterine arteries and prominent spiral myometrial branches. B Later phase showing spiral vessels emptying into irregular vascular spaces. Nine weeks later after therapy. C and D Return to normal.](image)

The uterine arteries are small and the vascular spaces are no longer apparent.

uterus. In M.T.D. the spiral myometrial vessels are much more obvious than normal and they may be considerably enlarged.

Their ramifications provide further radiological evidence of the position and size of the uterus. (Fig. 1, 2, 3.) In later films, contrast medium is seen to enter ill-defined irregular vascular spaces which remain opacified throughout the period of study. In this phase of an angiogram of a normal non-pregnant uterus, ca-

still opacified. Such gross arterio-venous shunts have been seen in 5 patients.

Parametrial extension, pelvic and vaginal secondary deposits may be demonstrated by angiography. On some occasions vaginal secondaries failed to fill with contrast — perhaps because of their necrotic state. On the other hand we have twice demonstrated foci of tumour in the region of the vagina and bladder that could not be detected by clinical examination. The early films in such cases show