

## Torsion of Ovarian Tumour in Infancy

BY

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It is a generally accepted fact that ovarian tumours occur infrequently in infancy and childhood. The condition, nevertheless, occurs sufficiently often for it to be considered in the differential diagnosis of lower abdominal pain, precocious puberty and vaginal bleeding in infancy. Dargeon (1949) published the clinical data of 14 cases of ovarian tumour in children under 14 years of age, the youngest child being one year old. In none of these cases did torsion of the ovarian pedicle occur, nor was this complication encountered in a series of 186 cases of ovarian tumours in childhood reviewed by Witzberger and Agerty (1937).

Torsion of an ovarian cyst in infancy is not, however, an unknown occurrence, the complication occurring twice in a series of eight cases under ten years of age described by Gross (1954). Torsion of a solid ovarian tumour in an infant aged two years is sufficiently unusual to warrant recording.

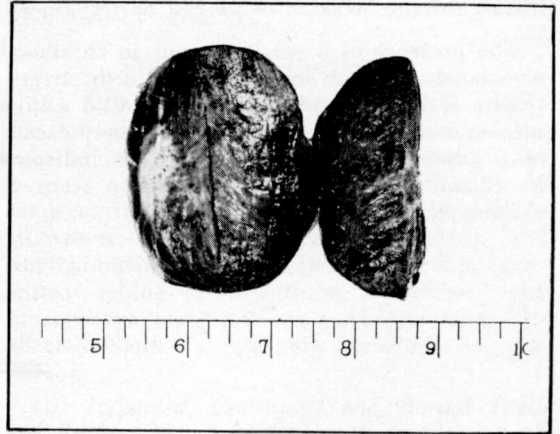
### CASE REPORT

M.M., a female infant aged 2½ years, first complained of abdominal pain seven days before admission. With the onset of the cramp-like pain she vomited once and the pain abated. On the morning of admission the pain recurred with great intensity, but waxed and waned in the course of the next few hours. The pain was localised to the hypogastrium and did not radiate to the groin or thigh. There was no frequency of micturition nor any bowel disturbance, nor had she vomited on this occasion.

Examination disclosed a child in obvious pain with drawn-up legs, but not ill-looking, despite a temperature of 100.2° F. and a pulse rate of 128 per minute. Abdominal palpation revealed a hard mass the size of a coconut with slightly irregular but well defined edge extending from the symphysis pubis to two fingers below the umbilicus. The mass was markedly mobile, being easily pushed into the right and left loins. Rectal examination permitted the hard, non-tender mass to be felt with the tip of the finger.

A clinical diagnosis was made of "torsion of ovarian tumour," and at operation this diagnosis was substantiated. Upon opening the peritoneal cavity a large plum-coloured smooth mass was found with three and a half twists of the left ovarian pedicle in a clockwise direction. The pedicle was untwisted, transfixed, ligated and divided, the mass being removed. The right ovary was seen to be normal and the abdomen was closed.

*Pathology.*—Macroscopic examination disclosed a large plum-coloured mass, hard to the feel but with several soft areas. There were no areas of infarction or gangrene; the bisected mass appeared to consist mainly of fibrous and muscular tissue (Fig. 1).



Photograph of left ovarian tumour, demonstrating its solid nature.

Histological examination revealed a connective tissue neoplasm. The constituent cells were elongated with long, thin spindle-shaped nuclei, which demonstrated no mitotic figures. The specimen contained numerous vascular channels, which are widely dilated and stuffed with fresh blood, giving it an angiomatous appearance, but readily attributable to torsion of the pedicle.

The growth is probably of the nature of an angio-fibromyoma, the appearances being entirely benign.

*Post-operative Course.*—The child made an uneventful recovery and was discharged on the eighth day. The child is now six years of age and in good health without signs of recurrence.

### DISCUSSION

An ovarian tumour presenting in childhood is most likely to be a teratomatous growth, and though a dermoid cyst is the more common type of teratoma to undergo torsion, the more solid variants are not immune to twisting. The teratoma arises from the totipotent cells of a dislocated blastomere; and though an admixture of ectodermal, mesodermal and entodermal derivatives are usually found as in the dermoid cyst, a unilateral development of mesodermal cells alone may occur. Unilateral differentiation into fibrous or fibromuscular tissue may occur and, depending on the degree of cellular anaplasia, the growth will be dubbed as a fibroma, fibromyoma or fibromyosarcoma. Apart from the sarcomatous variety which disseminates at an early stage, the embryonal teratoma is a benign tumour.

At operation the contralateral ovary must be carefully scrutinised, as these tumours are, not infrequently, bilateral. Though the growth is sometimes encapsulated and may be enucleated from the ovarian tissue at operation, usually no distinguishable ovarian tissue can be recognised.

The presence of a pelvic tumour in childhood associated with advanced body growth, hypertrophy of breasts, precocious menses and a high urinary oestrogen level will connote the presence of a granulosa cell tumour which, as indicated by Bland and Goldstein (1935), may occur in childhood.

Though torsion of an ovarian tumour in infancy may cause confusion in diagnosis with acute appendicitis, Meckelian diverticulitis or intestinal obstruction, the presence of a hard or cystic pelvic mass should suggest the correct diagnosis.

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