possible to make exfoliative cytology less subjective and more decisive, and consequently easier to apply. The evidence of a characteristically high activity of enzymes of the hexose monophosphate shunt in smears from cases of known carcinoma of the cervix suggests the possibility of a "histochemical stain" which might assist the interpretation of smears.

SUMMARY

It is possible to demonstrate respiratory enzyme activity on scrape smears from the uterine cervix.

Because cancer cells show a more intense reaction for the dehydrogenases of the hexose-monophosphate pathway than normal cells, it may be possible to develop a histochemical stain to assist interpretation of smears.

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Medical Memoranda

Hydrohaematocolpos

Brit. med. J., 1966, **1**, 89

Hydrometrocolpos is a very rare condition and hydrohaematocolpos is rarer still. We therefore thought it worth while to place this case on record.

CASE REPORT

A full-term 5-days-old female child was referred to us for a lump in the lower abdomen, unassociated with any significant symptoms, except distension of the abdomen and occasional episodes of vomiting.

The child was examined on the sixth day after birth. It was observed that her general condition was satisfactory and that she had polydactyly of both hands on the ulnar side. The lower abdomen was distended. Palpation revealed a mid-line, intra-abdominal, non-tender cystic lump arising from the pelvis; it measured about 10 cm. by 7 cm. and had an uneven surface and well-defined borders. The upper pole was just above the umbilicus and was mobile from side to side. Rectal examination revealed a cystic mass anteriorly. No other abnormality was detected in the abdomen or in other systems. The results of investigations showed: Hb 16.2 g./100 ml.; urine, nothing abnormal; plain radiograph of the abdomen, soft-tissue shadow in the pelvis.

Since the symptoms of subacute obstruction were persistent and progressive, a laparotomy was performed on the eleventh day after birth. A large cystic swelling was found arising from the pelvis and pushing the bladder upwards and anteriorly. It was, in fact, the grossly distended uterus and upper part of the vagina. Tubes, ovaries, and other organs were found to be normal. As the condition of the child was not satisfactory, the cyst was decompressed by aspiration. About 200 ml. of blood-stained fluid was removed, the puncture site inverted with chromic catgut, and the abdomen closed in layers. Routine post-operative care was given. The child developed bronchopneumonia and wound infection, to which she succumbed on the twelfth post-operative day. Permission for necropsy was not obtained.

COMMENT

Hydrometrocolpos is a condition, always occurring before the menarche, in which the uterus and vagina are distended with retained fluid. In hydrohaematocolpos the fluid is blood-stained. In a series of 62 cases of hydrometrocolpos in different

age groups (Spencer and Levy, 1962) 48 were seen in infants below 3 months of age. Of the 48 cases only two were classified as hydrohaematocolpos. A more descriptive name for the condition described here would be hydrohaematometocolpos.

Hydrohaematocolpos is always associated with two aetiological factors—an obstruction to the vaginal canal and a hormonal factor. The condition can occur in very early infancy when there is a high level of maternal oestrogens or in early puberty when the patient begins to elaborate her own hormones. Of the causes of obstruction found in the literature, the order of frequency is imperforate hymen in 42, atresia of the vagina in 13, and transverse septum in seven cases (*Year Book of Pediatrics*, 1963-4). The cause of obstruction in the case studied here was partial atresia of the vagina, the extent of which could not be clinically assessed.

The clinical manifestations with which the patient may present are usually a lower abdominal lump or, less frequently, intestinal, urinary, or venous obstruction—either singly or in varying combinations. Cases may be asymptomatic and be discovered accidentally on routine examination by the presence of a bulging vaginal membrane. Except that the retained fluid is blood-stained, there is no difference in the symptomatology of hydrohaematocolpos and hydrometrocolpos.

Treatment should be directed towards permanent relief of obstruction to the vaginal tract. Wherever patency can be established by surgery it is recommended that a small rubber drainage tube should be left in place for a few days, but not for too long because of the risk of infection. Resection of the uterus should be avoided, because it leaves behind a permanent problem.

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