A REVIEW OF 463 EARLY ECTOPIC PREGNANCIES OPERATED UPON AT THE GROOTE SCHUUR HOSPITAL*

H. F. MUKHEIBER, M.B., CH.B. (CAPE TOWN)

Registrar, Division of Obstetrics and Gynaecology, University of Cape Town and Cape Provincial Administration

As everybody who has come to grips with statistical figures knows, they can be the most unrelenting of tyrants or the most amusing of servants. The results of an encounter with the figures involving ectopic pregnancies are presented. During the 5 years 1951-55 there were 12,682 admissions to the gynaecological wards of the Groote Schuur Hospital, Cape Town, of which 463 were early ectopic pregnancies, representing an incidence of 3·6%. The pregnancies were tubal in situation in all but one case, in which the implantation was in the right ovary.

Age and Race Incidence

Most patients in the series of 463 cases of early ectopic gestation were between the ages of 25 and 40 years. There were only a few cases under the age of 20 years. The youngest was 17 years and the oldest 44 years. The majority of the 463 patients belonged to the Coloured race—58%. The numbers were the same (21%) for both the Bantu and White. (The European and Coloured populations of Cape Town are approximately equal, and the Bantu population relatively small.)

AETIOLOGY

Although a great variety of causes—for example, chronic pelvic infection, congenital abnormalities of the tube, extratubal swellings, tubal spasm, transmigration of the ovum and increased receptiveness of the tubal mucosa—have been suggested, tubal inflammatory disease is probably the greatest single aetiological factor. A history of pelvic inflammation was elicited in 126 cases (27%) but histological confirmation was obtained in only 61 cases (13%). In 3 of the latter the salpingitis was found to be tuberculous in origin. As salpingitis is frequently a bilateral disease, it was not surprising to find that repeated tubal pregnancy occurred in 29 cases (6·3%). The use of sulpha drugs and antibiotics has greatly reduced the incidence of pelvic inflammation. In 1946 approximately 62% of all cases seen at the gynaecological out-patient department were diagnosed as pelvic infection; this figure had dropped to 24% in 1955. A sharp fall in the frequency of ectopic pregnancies might therefore be anticipated. This conclusion differs from that of Johnson and Post (1954), who state that the use of antibiotics has been responsible, in fact, for an increased incidence of tubal pregnancies. These authors consider that the antibiotics arrest the inflammatory process before

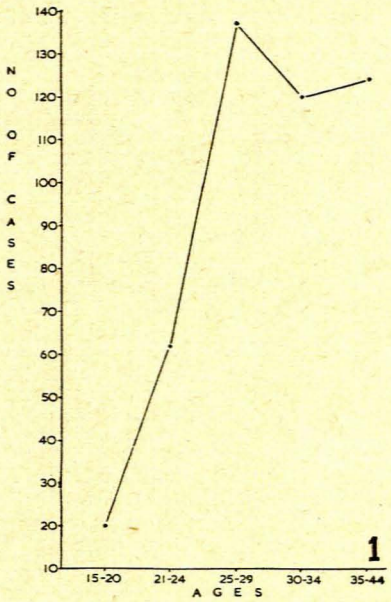

Fig. 1. Ectopic pregnancy: age incidence.

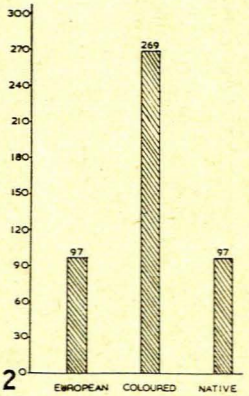

Fig. 2. Ectopic pregnancy: race incidence.

* A paper read at the South African Obstetrical and Gynaecological Congress, Durban, July 1956.

complete occlusion results, thus predisposing to tubal implantation.

The graph in Fig. 3 shows for each of the 10 years 1946-55 the number of cases of ectopic pregnancy admitted to the gynaecological wards of the hospital, as compared with the total admissions to those wards and the population of the Cape Town municipality, and the fall in the 10 years in the percentage of cases of pelvic infection in the gynaecological out-patients. The graph shows that there has been a steady rise in the number of ectopic pregnancies, interrupted in 1953 and 1954. In 1955 an additional ward was made available to the gynaecological department and this appears

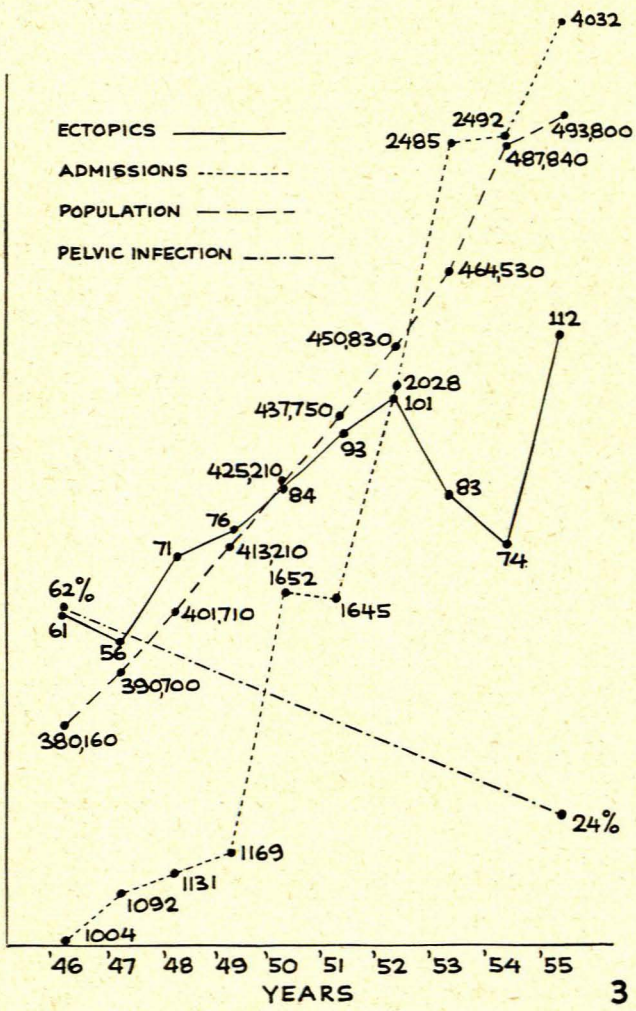

Fig. 3. Ectopic pregnancy: annual number of cases admitted, etc.

to account for the increase in 1955. In 1946, 1,004 cases (including 61 ectopics) were admitted to the gynaecological wards, as compared with 4,032 (including 112 ectopics) in 1955. The population of Cape Town has also increased by 113,640 (30%) during the last 10 years. It therefore seems that the increased number of tubal pregnancies in Cape Town has kept in trend with the rise in both the population and the number of admissions.

SYMPTOMS

The main symptoms can be summarized as follows:

Abdominal pain	95%
Shoulder pain, including subcostal	28%
Amenorrhoea	82%
Vaginal bleeding	74%
Gastro-Intestinal symptoms	42%
Bladder symptoms	18%

There is general agreement that abdominal pain, amenorrhoea, and vaginal bleeding are the important triad. Practically all the patients complained of *abdominal pain* but it varied greatly in severity and site. In 28% of cases pain was referred to the shoulder tips and this was found to be a valuable diagnostic guide. Localization of the pain did not necessarily indicate the side of the ectopic pregnancy. A history of *amenorrhoea* was present in 82% of cases. It was interesting to note that 10 cases of tubal pregnancy occurred during the amenorrhoea of lactation. *Vaginal bleeding* occurred in 74% of cases. In many instances the bleeding resembled the onset of normal menstruation but continued as persistent dark spotting. Profuse bleeding was seen in 29 cases. *Gastro-intestinal symptoms* were surprisingly common; 42% of cases complained of nausea, vomiting and diarrhoea. The importance of *bladder symptoms* was first recognized by MacVine and Lees (1949). They usually take the form of dysuria and frequency. In this review 3 cases presented with urinary retention.

DIAGNOSIS

An accurate pre-operative diagnosis was made in 65% of the 463 cases of ectopic gestation. The wrong diagnoses were as follows:

Tubo-ovarian masses	17·4%
Fibroids	4·2%
Abortions	4·0%
Ovarian cysts	3·7%
Appendicitis	2·1%
Others	3·6%

In 22 cases laparotomy was performed following an erroneous diagnosis of ectopic pregnancy.

Routine haemoglobin estimations were made; in 72% of cases the reading was under 10 g.%. A falling haemoglobin reading was found to be a valuable diagnostic guide. Frog tests were found to be of minimal help in diagnosis. Colpopuncture should not be used as a routine measure. The prolonged anaesthetic is an added risk to a shocked patient and occasionally false positive and false negative results are encountered. In this review colpopuncture was used as an aid to diagnosis in 72 cases. It should be reserved for cases where the diagnosis is in doubt.

TREATMENT

In this series there were 2 deaths—a mortality rate of 0·4%, which compares more than favourably with

those found in the literature. One of the fatal cases was admitted in a moribund condition, and died before treatment could be administered. The other was a 28-year-old patient who was treated by right salpingectomy. After an entirely satisfactory post-operative course she suddenly collapsed and died on the 7th post-operative day; post-mortem examination revealed a massive pulmonary embolus.

There seems little doubt that spontaneous cure occurs in some cases and a few gynaecologists still practice conservative treatment of ectopic gestations. At the Groote Schuur Hospital operation is undertaken in every case as soon as the diagnosis of tubal gestation is made. Delay in pre-operative resuscitative measures is seldom justified, because these patients are actively bleeding and the surgeon's first duty is to arrest the haemorrhage. The patients improve dramatically once the haemorrhage has been controlled. Blood transfusions are given when indicated, which was in 82% of the cases in this series.

The following were the operations performed:

Right salpingectomy	187 cases
Left salpingectomy	176 cases
Salpingo-oöphorectomy	87 cases
Wedge resection of uterus	11 cases
Oöphorectomy	1 case

Thus salpingectomy was performed in 97% of the cases. The incidence of salpingectomy on the right and left sides was roughly the same. No attempts were made to conserve the fallopian tube. Total salpingectomy is advocated because the risk of recurrence in the same tube is high—MacVine and Lees (1949). The operation of tubal conservation should be reserved for cases where the opposite tube has already been removed or is diseased.

All too frequently the ovary on the affected side is removed with the fallopian tube. This is an unjustifiable practice, despite the views expressed by Jeffcoate,[3] who suggests that salpingo-oöphorectomy will improve the conception rate in patients who have suffered from atubal pregnancy. Jeffcoate makes no attempt to prove this theory and no known figures to date substantiate his statement. It is generally possible to dissect the ovary free from the surrounding adhesions and thereby save it.

Some authorities recommend hysterectomy as the treatment of ruptured interstitial pregnancy but wedge-resection of the uterus was found to be a satisfactory and adequate form of treatment in the 11 cases in this review.

In one patient a bilateral ectopic pregnancy was discovered. It is therefore essential for the surgeon always to inspect the opposite adnexae.

Post-operative complications were surprisingly few. In this series there were 16 cases of post-operative complications involving the lungs. In the light of recent knowledge, the majority of these were probably cases of pulmonary embolus.

SUMMARY

463 cases of early ectopic pregnancy were admitted to the Groote Schuur Hospital in the 5 years 1951-55. The mortality rate was 0·4%. In order to achieve a low mortality, early diagnosis, early admission to hospital, together with rapid replacement of blood lost and adequate surgery are essentials.

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