

through a cannula. However, in other patients, such as those reported above, the viscosity of the intra-peritoneal material is such that ordinary paracentesis fails to produce any fluid. When a "dry tap" is obtained on an abdomen showing a fluid thrill, the possibility of pseudomyxoma should at once be considered, and gentle suction applied to the cannula in an attempt to draw off some of the mucinous material. The diagnosis may be confirmed by peritoneoscopy (Tedeschi *et al.*, 1949).

At laparotomy the diagnosis is of course obvious, but the surgeon may be in some doubt whether he is dealing with a benign or a malignant condition. It now seems probable that most cases of pseudomyxoma peritonei are benign. A mucocele of the appendix should always be sought, and in females the pelvis should be examined for a pseudomucinous cyst. It was formerly believed that many cases of pseudomyxoma peritonei were due to ruptured colloid carcinomas of the appendix (Masson and Hamrick, 1930; Woodruff and McDonald, 1940), but, as with minimal surgery these patients lived for many years, it seems likely that the tumours were either carcinoid or organized mucinous masses containing hyperplastic but benign epithelial elements. When the mucinous material is very tenacious or has become partly organized proper exploration of the abdomen may be impossible.

Summary

The diagnosis of pseudomyxoma peritonei is described and two typical cases are reported.

There is a striking contrast between the general well-being of the patient and the advanced signs present in the abdomen.

When a fluid thrill is present in the abdomen failure to demonstrate shifting dullness or to withdraw fluid on paracentesis should suggest the diagnosis.

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In future the British Commonwealth and Empire Nurses War Memorial Fund will be known as the British Commonwealth Nurses War Memorial Fund. The Fund was founded in 1946 to provide a worthy memorial to the nurses, midwives, and auxiliaries of the British Commonwealth who died in the second world war. The memorial consists of a Nurses' Chapel in Westminster Abbey, and a trust fund which awards postgraduate travelling scholarships to nurses and midwives of the Commonwealth. Up to date 84 scholarships have been awarded, and 11 more are announced for the academic year 1959-60.

TWINNING RATE IN EUROPE DURING THE WAR

BY

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It is known that undernutrition causes a decrease in the litter size in many mammals (Hammond, 1952; Lack, 1954). The purpose of this paper is to determine whether there was a decrease in the twinning rate in man in those countries which suffered from undernutrition during the German occupation during the last war.

Data on twinning rates are reported here for Denmark, France, Holland, Norway, and Sweden. There was little or no undernutrition in Denmark, which was leniently treated by the Germans (Fridericia, 1947), or in Sweden, which remained neutral (Abramson, 1947). There was, on the other hand, considerable undernutrition in France (Trémolières, 1947), Holland (Jansen, 1947), and Norway (Hansen, 1947). There is also considerable evidence of regional variation in the amount of malnutrition in France; in particular, the north-west (Brittany and Normandy) is believed to have suffered little (Chevallier and Moine, 1945; Trémolières, 1947); data for this region of France are given separately.

Methods.—Data on twin maternities by sex, and on total maternities by maternal age, were taken from the annual reports on vital statistics of the countries concerned. Monozygotic and dizygotic twin maternities have been calculated by Weinberg's method (1909), which assumes that dizygotic twins are equally likely to be of the same or of different sexes; monozygotic twins must of course be of the same sex. If, therefore, *L* like-sexed and *U* unlike-sexed twin maternities are observed, the number of dizygotic twin maternities is taken as *2U* and the number of monozygotic twin maternities as *L-U*. The sex of twins is not available for Denmark, and so this method cannot be applied. All rates are expressed as twin maternities per 1,000 maternities, and have been standardized for maternal age by the indirect method of standardization (see Hill, 1955). The standard twinning rates used are those for France by maternal age reported by Bulmer (1958).

Results

The monozygotic and dizygotic twinning rates for the five-year periods before, during, and after the war are shown in Fig. 1. The wartime quinquennium is taken as 1941-5. The post-war quinquennium is 1946-50. The pre-war quinquennium is 1936-40 in all countries except France, where it is 1934-40, excluding 1937 and 1938, for which years data are not available.

The total twinning rate is smaller during the war than either before or afterwards in France, Holland, and Norway. The fall is largest in Norway and smallest in France, but in all three countries it is significant at the 0.1% level. In Denmark, Sweden, and North-West France the twinning rate seems to be falling over the period considered, but this decrease is not accentuated during the war.

It can also be seen that the fall in France, Holland, and Norway is entirely due to a fall in the dizygotic

twinning rate; indeed, the monozygotic twinning rate rises, if anything, in France and Holland, although this is not statistically significant. Thus the dizygotic, but not the monozygotic, twinning rate fell during the war in three countries which were undernourished, but not in Denmark or Sweden, nor in the North-West of France, which were comparatively well nourished.

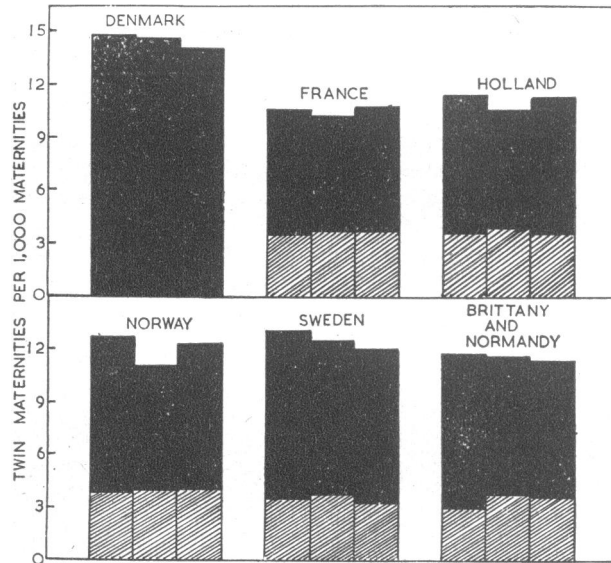


FIG. 1.—Monozygotic (hatched) and dizygotic (black) twinning rates. Only the total twinning rate is available for Denmark.

The yearly twinning rates for France, Holland, and Norway are given in Fig. 2. In general it can be seen that the dizygotic twinning rate falls sharply in 1941; there is a slight further fall in 1942, and the rate then remains constant until 1946, when it rises again, and returns to its pre-war level in 1947. The depression in Norway in 1942 is probably not real, since it is not reflected in the total twinning rate. (It must be remembered that the estimates of the monozygotic and dizygotic rates are negatively correlated, and that a simultaneous rise in one accompanied by a fall in the other may therefore well be a sampling error.) It is, however, tempting to attribute the depression in Holland in 1945 to the "famine winter" of 1944-5, when there was severe starvation in Western Holland (Banning, 1947).

Discussion

It has been shown that there is a fall in the dizygotic twinning rate in three countries (France, Holland, and Norway) which suffered malnutrition during the war, but not in Denmark or Sweden, nor in the North-West of France, which were comparatively well-nourished. It is difficult to resist the conclusion that the fall in the twinning rate was directly caused by the malnutrition. It is suggested that this decrease is due to a decreased tendency of the ovary to produce double ovulations, due perhaps to a diminished secretion of gonadotrophin by the pituitary, which is known to follow prolonged underfeeding in animals (Burrows, 1945). There are, however, two other explanations which cannot be ruled out: (1) a decrease in male fertility; and (2) an increased prenatal mortality. In the latter case the increased mortality must be restricted to a very early period,

before the embryo divides to give monozygotic twins, since there is no decrease in the monozygotic twinning rate.

Summary

The dizygotic twinning rate fell during the war in France, Holland, and Norway, but not in Denmark, Sweden, or the North-West of France; the monozygotic

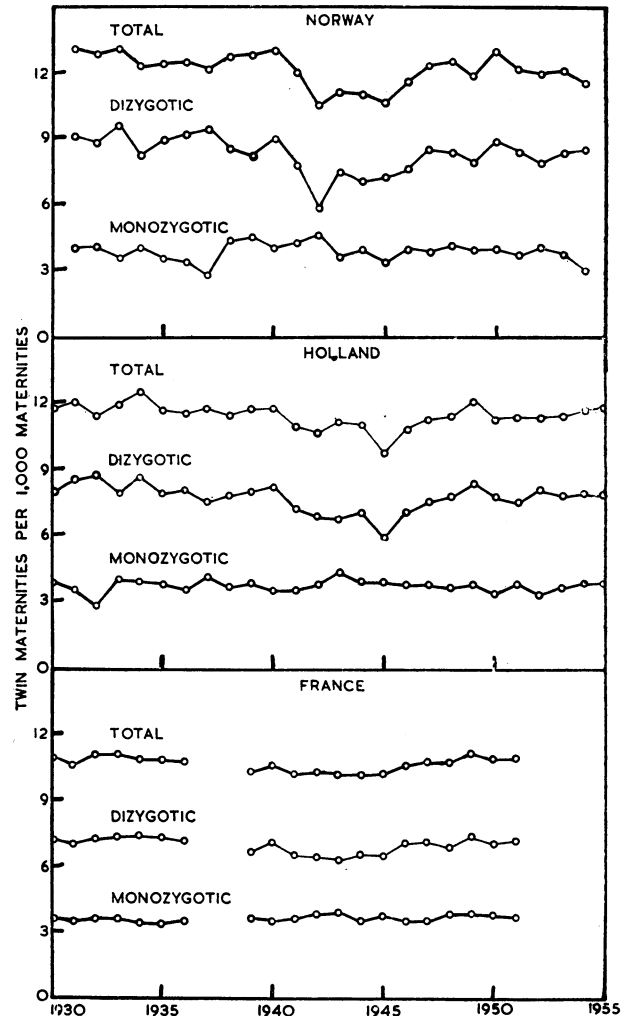


FIG. 2.—Yearly twinning rates.

twinning rate remained constant in all these countries. It is suggested that this was due to a decreased tendency of the ovary to produce double ovulations, which was caused by undernutrition.

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