Case Reports

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Myocardial infarction complicating a hydatidiform mole in a young woman

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Myocardial infarction in a 19-year-old girl with hydatidiform mole is reported. The attack was probably precipitated by severe vomiting, dehydration, and anaemia.

Myocardial infarction complicating pregnancy is rare. The first confirmed case complicating pregnancy was described by Katz (1921). The first electrocardiographically proved case was reported by Reis and Frankenthal (1935). Bramwell and Longson (1938) had never met a single case complicating pregnancy; Jones (1951) reported only one case of ischaemic heart disease among 1500 cases of heart disease complicating pregnancy. Fletcher, Knox, and Morton (1967) reported 5 cases encountered during 11 years of practice, and by 1967 a total of 35 cases had been reported. We report here a case of myocardial infarction in a 19-year-old primigravida with hydatidiform mole.

Case report

The patient was admitted to a peripheral hospital on 24 July 1970 for hyperemesis gravidarum. Her last menstrual period was on 14 May. There was no past history suggestive of diabetes mellitus, hypertension, or ischaemic heart disease. On admission she was found to be mildly anaemic and the fundus of the uterus was felt at the level of the umbilicus. On 27 July 1970 she developed abdominal pain and bleeding *per vaginam* and the same afternoon she was transferred to Castle Street Hospital for Women, Colombo, for specialized treatment. During the transfer she developed dyspnoea and severe retrosternal pain associated with sweating.

On admission to the hospital the patient was found to be pale with cold and clammy extremities. The pulse was 124 a minute and the blood pressure was 90/60 mmHg. There were bilateral basal crepitations. The fundus extended to the level of the umbilicus; the foetal parts were not palpable and the foetal heart sounds absent. On internal examination, the cervix was soft, external os closed, uterus uniformly enlarged, globular, and

there was no blood on the examining finger. In view of the size of the uterus which was out of proportion to the period of gestation and the absence of signs of a foetus, a clinical diagnosis of hydatidiform mole was made.

The patient was digitalized and packed cell transfusions were given to correct the anaemia. Urine for pregnancy test was positive in dilution of 1 in 100. An electrocardiogram taken on 28 July 1970 showed evidence of a recent anterolateral subendocardial infarction (Fig. 1). The next day the temperature was 37.8°C and a pericardial rub was detected over the praecordium. On the advice of the resident physician she was transferred to the Intensive Care Unit, General Hospital, Colombo.

On admission she was found to be anaemic and the tongue was dry and coated. The pulse was 148 a minute and regular. Blood pressure 90/60 mmHg. A presystolic gallop rhythm was heard over the praecordium. The respiratory rate was 48 a minute and fine crepitations were heard over the lung bases. The findings on internal examination were similar to those at Colombo Hospital for Women, except that the examining finger was blood stained. From 31 July to 2 August the patient had recurrent uterine colic with associated bleeding *per vaginam*. On 2 August she expelled a few large clots and a hydatidiform mole was evacuated by the consultant gynaecologist. She made an uneventful recovery.

Investigations Serum aspartate aminotransferase (normal 2-20 I.U.) 31 I.U. (28 July), 45 I.U. (29 July).

Erythrocyte sedimentation rate, 97 mm 1st hour (28 July), 84 mm 1st hour (30 July).

Lactic dehydrogenase (normal 50-150 I.U.), 184 I.U. (29 July); heat stable fraction (normal 30-60%) 85%.

WBC 8600/mm³, with normal differential count (28 July); 15,000/mm³, neutrophils 85%, lymphocytes 10%, metamyelocytes 5% (29 July);

G. 1 Serial electrocardiograms.

7200/mm³ with normal differential count (29 August).

Fasting blood sugar 92 mg/100 ml. Serum cholesterol 180 mg/100 ml.

VDRL non-reactive. Hb 5 g/100 ml (29 July), 10.1 g/ml (24 August).

Packed cell volume 22% (29 July), 33% (24 August).

Blood urea 73 mg/100 ml (28 July), 23 mg/100 ml (7 August).

Gravindex test - positive in dilution of 1/100 (28 July), negative for undiluted urine (28 August).

X-ray of chest: enlargement of cardiac shadow, pulmonary oedema + (29 July); heart size normal, lungs clear (4 August).

X-ray of abdomen: enlarged uterus + ; no evidence of foetal parts (29 July).

Serial electrocardiograms are illustrated in Fig. 1.

Histology report Section shows distended chorionic villi and organizing blood. Appearances compatible with hydatidiform mole (Fig. 2).

Discussion

The commonest form of heart disease encountered during pregnancy is rheumatic in origin. Atheroma is uncommon in women before the

FIG. 2 Histological section of hydatidiform mole ($\times 108$).

menopause as oestrogens are effective in reducing the tendency to atherosclerosis.

The clinical features suggestive of myocardial infarction in this case were severe retrosternal pain of constricting nature associated with sweating and dyspnoea, fever, and pericardial rub 48 hours later, gallop rhythm, left ventricular failure, raised transaminase and lactic dehydrogenase levels, an increase in WBC from $8600/\text{mm}^3$ to $15,000/\text{mm}^3$ 48 hours after infarction, and radiographic evidence of pulmonary oedema. The diagnosis was confirmed by serial electrocardiograms (Fig. 1). The other conditions considered in the differential diagnosis were cardiomyopathy of pregnancy and pulmonary embolism. Even though in cardiomyopathy of pregnancy the electrocardiographic changes produced may be indistinguishable from those of myocardial infarction, it occurs in the last trimester of pregnancy or puerperium. There were no features to suggest pulmonary embolism.

The diagnosis of myocardial infarction during pregnancy presents clinical and electrocardiographic difficulties. Discomfort in the chest is so common during pregnancy that this may mask ischaemic pain. The erythrocyte sedimentation rate is raised and leucocytosis occurs during pregnancy. Serum lactic dehydrogenase may be raised in normal pregnancy (Fletcher *et al.*, 1967).

As regards the aetiology of myocardial infarction in this patient, there was no evidence of diabetes mellitus, syphilitic heart disease, hypertension, hypercholesterolaemia, or a positive family history. The contributing factors were probably the extreme anaemia, dehydration, and hypotension. In a review of 45 cases of ischaemic heart disease associated

with pregnancy by Mendelson (1960), 19 had hypertension, 9 had cardiovascular syphilis, and 2 had diabetes mellitus.

The youngest reported case of myocardial infarction complicating pregnancy was at 22 years (White, Glendy, and Gustafson, 1935; Watson *et al.*, 1960). The patient reported here was only 19 years of age. We have not been able to trace any other case of myocardial infarction complicating hydatidiform mole.

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