

ABORTION FOLLOWING HAEMORRHAGIC SMALL-POX

by

M. BALARAMAN NAIR,

B. N. JOSHI

and

R. K. GADGIL,

Dept. of Pathology, Grant Medical College, Bombay.

Cases of haemorrhagic small-pox, especially during pregnancy, are extremely rare. Probably such cases are missed or are taken for some blood dyscrasias. Further, pregnancy appears to affect the course of the disease adversely and the patient often dies before any signs or symptoms suggestive of the fatal condition become apparent. In the present communication a fatal case of abortion following haemorrhagic small-pox is reported.

Case Report

A female, aged 18 years, was admitted with a history of 4½ months' amenorrhoea and fever and headache of 8 days' duration. On the 4th day of fever, patient developed a rash all over the body followed by bleeding per vaginam. On examination, she was found to be anaemic with petechial haemorrhages all over the body. There were subconjunctival haemorrhages and haemorrhagic spots on palate and pharynx. Pulse 130/mt. Resp. 30/mt. Rales were heard on both sides of the chest. Blood pressure 140/80. There was no increase in the number of petechiae after removing the tourniquet. Vaginal examination revealed cervix open with products of conception in the cervical canal. Digital evacuation of the uterus was done since the patient was bleeding. A provisional diagnosis of haemorrhagic diathesis? haemorrhagic small-pox was made. Patient's

condition became worse and she expired within two hours of admission.

P. M. Findings. Fairly built and fairly nourished body. The whole body including palms and soles showed multiple petechial haemorrhages. Over the chest wall there were large patches of haemorrhages about 2 cms. in diameter. There were a few tiny umbilicated vesicles on the left wrist and the lower abdominal wall. The whole conjunctiva was blotted up due to massive sub-conjunctival haemorrhage. Vaginal examination showed evidence of bleeding. On opening the body there were petechial haemorrhages in the parietal pleura and pericardium and there was a small amount of haemorrhagic fluid in both pleural spaces. Tongue showed petechial haemorrhages at the margins and the posterior part. Tonsils showed intense congestion and sloughing. Palate and pharynx showed small pin-point haemorrhages. There were submucosal haemorrhages in the oesophagus and stomach. Small intestine showed congestion, but the large intestine showed pin-point submucous haemorrhages increasing progressively from the caecum to the rectum. No vesicles were seen anywhere in the mucosa. Mesenteric lymph nodes were enlarged and congested. Liver appeared pale and showed small subcapsular haemorrhages. Spleen was moderately enlarged and congested. Heart showed pericardial, myocardial and sub-endocardial petechiae. Lungs showed broncho-pneumonic patches and oedema. Uterus was enlarged and showed subserous haemorrhages. No products of conception were seen. Mucosal surface was covered

with haemorrhagic slough. Cervix and vagina showed haemorrhages. Kidney and bladder showed petechial haemorrhages.

Microscopy. Sections through the vesicles on the skin from the wrist showed separation of the epidermis from the dermis at the basal layer, forming small vesicles. The cells surrounding this area showed hydropic degeneration and ballooning. Several inclusion bodies could be seen in the cells of the stratum Malpighium surrounding this vesicle as well as in other areas. They were seen as round or oval eosinophilic bodies in the cytoplasm of these cells. The dermis showed sparse infiltration of the upper cordium by round cells.

Sections through the trachea showed focal areas of desquamation of epithelium with submucous haemorrhages and infiltration with round cells. Lungs showed confluent type of broncho-pneumonia and in some areas congestion and oedema.

Tongue showed hydropic degeneration of the epithelium with submucous haemorrhages. In some areas the cells showed cytoplasmic inclusion bodies similar to those seen in the skin. Section through the oesophagus, stomach and intestines showed submucous haemorrhages and round cell infiltration.

Histology of other organs showed petechial haemorrhages as seen in the gross specimens.

Discussion

Review of literature shows that very few such cases are reported. Wolman has reported one case of purpura variolosa. Gupta (1951) reported his experience with small-pox based on the studies of 354 cases in the refugee camps of Jammu and its outskirts. In this series he came across 10 cases of small-pox associated with pregnancy. Three of them died before the appearance of the rash and the diagnosis was missed. The rest of the cases had typical symptoms of small-pox followed by rash on the third day. All these cases

were fatal. Paranjothy and Samuel (1960) reported a fatal case of purpura variolosa in a woman nearing full-term.

In the present case the diagnosis suspected was antemortem and was confirmed at autopsy. Gupta in the study of his cases has stated that this form of 'malignant type of small-pox' affected only pregnant women approaching full-term. The case reported by Paranjothy and Samuel also occurred in the eighth month of pregnancy. Interest in the present case is due to its occurrence in the second trimester resulting in abortion followed by death. A review of literature did not show a similar case.

Clinically two forms of haemorrhagic small-pox are recognised:— (1) purpura variolosa, inevitably fatal and death generally occurs before the typical rash appears; it manifests as a wide-spread purpuric rash; and (2) variola haemorrhagica pustulosa, where the typical small-pox rash appears and haemorrhage occurs into the vesicles. The present case showed features of purpura variolosa.

Paranjothy and Samuel noted the vesicles in the intestinal tract similar to those found in the skin in an ordinary case of small-pox. Councilman, Magarath and Brinckerhoff (quoted by Rivers) found that the lesions are found in the skin, soft palate, pharynx and oesophagus. In the present case vesicles were not seen in the gastro-intestinal tract, but a few vesicles were present on the palate, wrist and the abdominal wall. The most marked feature, however, was the presence of petechial haemorrhages all over the body including conjunctiva and in all the organs of the body.

Death is usually inevitable in purpura variolosa, particularly when associated with pregnancy. The death in this case has occurred following abortion, which in turn might have been due to internal haemorrhage in the uterus.

Summary

1. A case of purpura variolosa resulting in death following abortion is reported.

2. The case is interesting because it occurred in the earlier part of pregnancy. We came across no similar cases in the literature where purpura

variolosa occurred in the early part of pregnancy resulting in abortion and death.

References

1. Gupta C. K.: Ind. Med. Gaz.; 80, 623, 1951.
2. Paranjothy D. and Samuel I.: Jour. Obst. & Gyn. Brit. Emp.; 67, 309, 1960.
3. Rivers T.: Viral and Rickettsial Infections of Man. Lippincott, Philadelphia, p. 315, 1948.
4. Wolman M.: Am. J. Clin. Path; 21, 1127-1138, 1951.

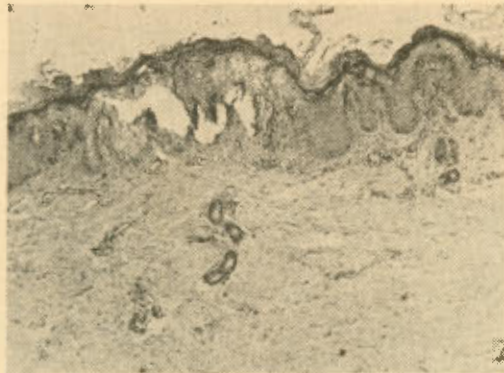


Fig. 1

Section through the skin showing hydropic degeneration of the cells of the epidermis with separation of dermo-epidermal junction. Upper corium shows infiltration by round cells. (H & E. x 210).

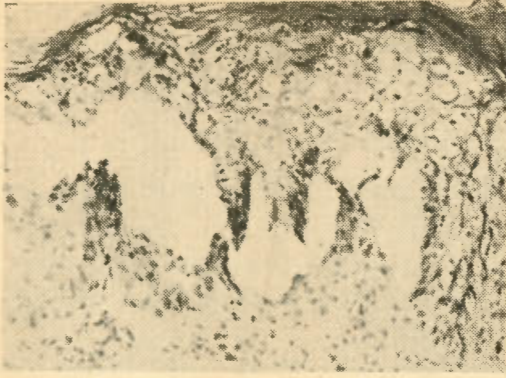


Fig. 2
High power view of the same (H & E x 420)

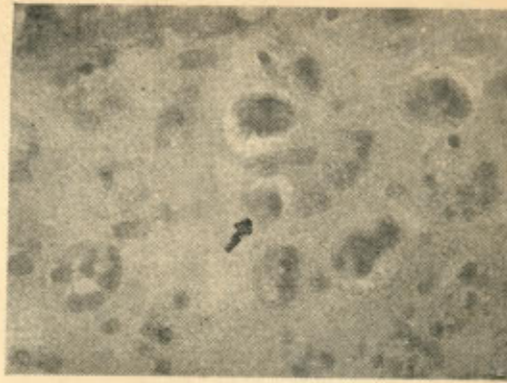


Fig. 3
High power view of the epidermis showing intracytoplasmic inclusion bodies (H & E x 840).

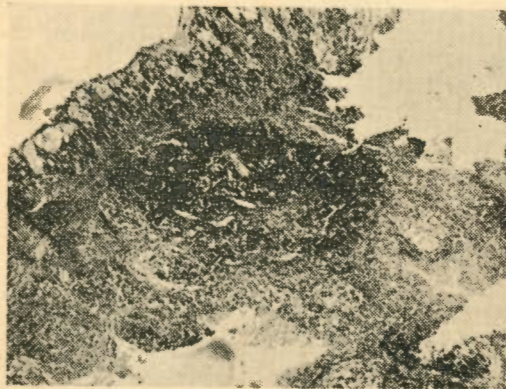


Fig. 4
Section through the tonsil showing necrosis of the epithelium and the underlying lymphoid follicle (H & E x 70).

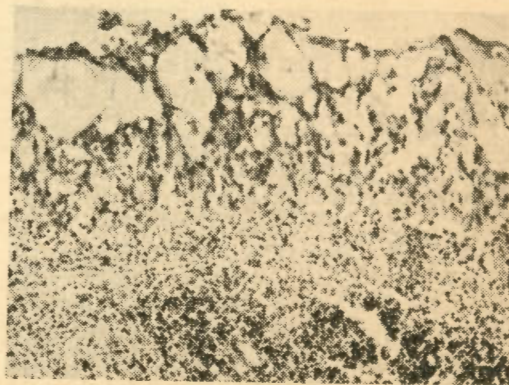


Fig. 5
High power view of the same (H & E x 420)