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Medical Memoranda

Massive Fat Embolism Following Fracture of the Femur: Complete Recovery

Fat embolism occurring as a complication of fracture of the femur is said to be comparatively rare. Wilson and Salisbury (1944) found eight cases of clinical fat embolism in 1,000 consecutive battle casualties, with a mortality of 75%. Cases of fat embolism have been classified into pulmonary, systemic, and combined types. The combined type (systemic and pulmonary) is said to be invariably fatal. We would like to place on record a case of the combined type which clinically justified the diagnosis of fat embolism, with complete recovery.

The subject of fat embolism has been extensively reviewed by Scuderi (1934, 1938, 1941), Watson (1937), Harris *et al.* (1939), Rowlands and Wakeley (1941), Robb-Smith (1941), and Robb-Smith *et al.* (1942). In all over 600 cases have been described.

CASE REPORT

A man aged 32 was admitted to hospital on October 25, 1948, after having been struck by a lorry which mounted the pavement after a collision.

On admission he was suffering from shock. There was deformity of the left thigh due to a fracture of the femur which was confirmed by x-ray examination. A Steinmann pin was inserted through the tibial tubercle under gas, oxygen, and ether anaesthesia by one of us (B. S. S. A.), a Thomas splint put on, and extension applied. Next day the temperature rose to 102° F. (38.9° C.) and the pulse rate to 110.

The patient was confused and restless. As careful examination did not reveal any other cause for the sudden change in his condition, a provisional diagnosis of fat embolism was made. This was supported by the finding of a number of fat globules in the urine. During the day he lapsed slowly into coma and his general condition deteriorated.

On October 27 he was still unconscious, and was fed by a nasal tube. He had a diffuse petechial rash all over his chest and abdomen, and his pupils were dilated and fixed. White rounded patches were visible on the temporal side of the right optic fundi. Rales were present at the bases of both lungs, being most pronounced on the right side. Both upper limbs and the right lower limb were spastic, and on the right side the reflexes were exaggerated; there were also ankle clonus of the right side and a bilateral extensor plantar response. The x-ray report on the chest on October 27 was as follows: "There are signs of bronchopneumonia of both the lungs, affecting chiefly the right base."

On October 29 the patient began to take fluids by mouth. The spasticity of the limbs was now much lessened, and the lungs were clear except for a few scattered rales over the base of the right lung. X-ray examination of the chest on November 1 showed the lung fields to be almost clear. By November 10 (the sixteenth day) the patient had made a complete recovery.

COMMENT

The diagnosis of fat embolism should not present any difficulty. The signs one should look for are any of the following: petechiae over the trunk, spasticity or paralysis of one or more limbs, exaggerated tendon reflexes, extensor plantar response, signs of bronchopneumonia within 24 hours of an accident, and fat globules in the urine. This case is of particular interest because the fat embolism was massive, yet the patient not only survived his illness but was also left with no residual paralysis or weakness.

We wish to express our thanks to Dr. O. W. Roberts, medical superintendent of Dulwich Hospital, for permission to publish this case.

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Vaginal Jellies: How Long they Stay in the Vagina

Tests have been made on 17 women attending a V.D. clinic to ascertain how long an application of vaginal jelly will stay in the vagina. For this purpose a 6% "modocol" jelly, the ethyl-cellulose base used in most of the Kylon preparations, with 2% starch as an indicator, was kindly prepared by the manufacturers.

A preliminary *in vitro* test was undertaken with a tincture of iodine diluted with water to 0.5% on the commoner vaginal applications in use in the clinic. When the iodine was added to chloramphenicol pessaries, carbarsone pessaries, or acetarsol powder no reaction was noted. An intense blue colour was, however, observed when it was added to acetarsol tablets, and care was taken not to employ them for the women under observation in this series.

The patients chosen were 15 white and 2 negro women of an average age of 27 years (extremes 14-38). The conditions from which they were suffering were: vaginitis, 4; salpingitis, 2; oedema of the vulva and vulvitis, 2; cervicitis, 2; gonorrhoea, 2; fluor albus, 2; thrush, 1; sterility, 1; anxiety, 1.

The vagina of each was first swabbed with cotton-wool, and 0.5% iodine was then poured over the moist swab. No blue colour was noted. The modocol jelly containing starch was then inserted with a Kylon extendable applicator, a form of cardboard syringe which will hold 5 g. of jelly. The iodine test was repeated after 1 to 14 days. The results were as follows:

Days:	1	2	3	4	5	6	7	13	14
Positive	1	1	3	1	—	—	—	—	—
Doubtful	—	—	—	2	—	—	—	—	—
Negative	—	—	—	2	1	1	3	1	1

Thus of five patients tested at one to three days all showed starch present in the vagina. The results of those tested on the fourth day were indefinite, while of seven tested at five or more days starch was present in none.

The cardboard applicator proved an efficient instrument for introducing the jelly into the vagina.

I am grateful to Kylon Ltd. for kindly providing the jelly and applicators used in these tests.

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