on after death. There is some evidence that the skin lesions may have been caused by T.E.L. in the petrol (Ministry of Supply, 1950). When leaded petrol evaporates about half of it evaporates before any of the lead comes off. Absorption is rapid through the lungs and unbroken skin. It is stated that T.E.L. has a specific toxic effect on the central nervous system. Death may occur within 10 minutes of exposure to a heavy concentration. A degree of consciousness and sensation is said to persist almost to the time of death.

Fifteen deaths from this cause are recorded by Bini and Bollea (1947). It seems, however, difficult to determine whether these deaths were due to petrol vapour or T.E.L. Cassells and Dodds (1946) describe chronic poisoning from T.E.L. but mention no acute cases. Machle (1941) states that T.E.L. is not a factor in acute poisoning. The possibility of vasevagal inhibition had to be considered, but there was no evidence of any painful stimulus. Nor was there any evidence of pressure on the carotid body or evidence to support such a questionable diagnosis as status lymphaticus or of death occurring in an epileptic fit.

The pathological changes found at necropsy are not specific in death from petrol vapour. If death is not immediate the lesions may be due to the irritant and lipolytic action of the vapour. There may be damage to the lungs, hyperaemia, petechial haemorrhages, subpleural extravasations, and sometimes gross haemorrhage into the lungs. Bronchitis and pleural effusions may be present. Severe acute exposure will cause sudden collapse; death may follow without loss of consciousness. In view of the great concentrations of petrol vapour, well over lethal level, that were demonstrated when the accident was reconstructed, there seems to be no doubt about the cause of death.

Summary

A case of accidental death due to inhalation of petrol vapour is described; the surprising rarity of this kind of accident is mentioned and the post-mortem findings are recorded. The reconstruction of the tragedy is described, showing that the concentration of petrol vapour must have been at a highly dangerous level. The literature is reviewed.

I thank Mr. D. E. Woods and Mr. A. J. Taylor for the estimation of the vapour concentration obtained at the reconstruction of the accident.

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A grant of £50,000 has been made by the King Edward's Hospital Fund for London to assist the North-east Metropolitan Regional Hospital Board in their plans for developing St. Clement's Hospital, Bow, as a modern psychiatric hospital. The hospital already provides to some degree for the mentally sick, in that it has an observation ward and a small unit for psychoneurotic cases. The board consider that in future this hospital will no longer be needed to play any part in providing for the general hospital needs of the area. They have therefore decided to extend the psychiatric work undertaken there, with a view to establishing a modern neuropsychiatric centre for East London. The aim is to provide full facilities for the investigation and treatment of all types of acute mental illness, as well as providing teaching and research facilities.

Medical Memorandum

Spontaneous Rupture of Haematocolpos

Atresia of the hymen is a comparatively uncommon condition and receives but brief mention in most gynaecological textbooks. The possibility of spontaneous rupture of the occluding membrane is not considered in any of the standard works of reference; the following case is described in which this very rare occurrence was encountered.

CASE REPORT

The patient, a girl aged 13, was admitted to hospital on April 30, 1957, because of severe vaginal haemorrhage. Since January she had suffered from attacks of acute urinary retention at approximately monthly intervals, but these had apparently settled readily after the administration of a simple diuretic mixture. Accompanying these episodes there had been some complaint of backache and abdominal pain and a feeling of general malaise. On the evening of admission she had suddenly begun to bleed profusely from the vagina.

On examination her face was pale, but the mucosae were well coloured and there was no evidence of shock. She was afebrile, with a pulse rate of 100 and a normal blood pressure. Inspection of the perineum revealed a bluish swelling just posterior to the urethral orifice; this swelling occupied the normal site of the vaginal introitus and from it a small quantity of dark blood was trickling. Closer examination confirmed that the vagina was occluded by a membrane in which there was a tear, about 3 mm. in diameter, immediately proximal to its anterior border.

Under general anaesthesia the membrane was incised in a cruciform manner, releasing a moderate amount of retained blood. The vagina was greatly distended, the cervix being just palpable at the limit of digital examination. Following operation she was given a course of oxytetracycline extending over five days. Her progress was uneventful, and on May 7 she was re-examined under an anaesthetic before being discharged. By this time the vagina had contracted to a size approximating to normal and the uterus could be easily palpated bimanually; it did not appear to be enlarged. In the pouch of Douglas a moderate quantity of soft clot could be felt, but, as she was symptom-free, no attempt was made to evacuate this. She was allowed home the following day, and has remained well since that date.

COMMENT

The preoperative diagnosis in this case might have been suggested by the history of recurrent attacks of urinary retention, but the picture was complicated by the unusually early age of onset and by the ready relief of symptoms on administration of a diuretic mixture. It is generally accepted that the retention of menstrual blood in cases of haematocolpos is almost invariably due to a membrane situated above the true hymen (Bourne, 1955). Spontaneous rupture of this membrane must be excessively rare, and the only previous reference to this occurrence appears to be an article by Puech (1878) entitled "Imperforation de l'hymen; accidents dépendant de la rétention des menstrues se terminant au bout de dix-huit mois par la rupture spontanée de l'obstacle." In the present case there had been no history of trauma, and it seems likely that rupture was due simply to the effect of increasing intravaginal tension on an abnormally thin area of the obstructing membrane.

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