Condition on Admission.

He was suffering from severe pain in the left half of the thorax, shooting from the spine along the track of the intercostal nerves from the fourth to the sixth; most severe in the flank and inframammary region, and shooting across the epigastrium. The pain was said to vary by change of posture, being relieved by turning on the left side and aggravated by lying on the back, but it was doubtful if this was the fact. In person, on admission, he was well nourished, but was pale and looked very ill. The tongue was greatly furred and coated with grey, the pulse was small and contracted; it became hard when the pain was especially severe. There was slight tenderness on percussion over the lower dorsal vertebrae, and marked tenderness in the left flank and inframammary region of the chest; none in the epigastrium. The lung signs and heart sounds were natural; a weak apex beat was felt about $\frac{1}{2}$ in. to the left of the normal situation; the left inframammary region was hyper-resonant; nothing abnormal was detected in the abdomen; abdominal breathing was intact.

History.

The pain precluded any extended inquiry into past history. The patient said it had attacked him suddenly on the 17th, and had continued ever since, lessening when he kept still, and increasing when he moved about or lay in certain positions. On January 22nd he had attended the hospital as an out-patient. He then complained also of "soreness of the chest," and some catarrhal sounds were heard over the lungs; but no physical signs were found to account for the pain. Later in the day he vomited about half a pint of blood. This was repeated once on the same day, twice on January 23rd, and once on the day of admission.

Treatment and After-History.

The most plausible presumption, notwithstanding the absence of direct evidence, being that there was an intrathoracic aneurysm, oozing into the oesophagus, the patient was placed on rectal alimentation and morphine administered subcutaneously. At 8 p.m. he vomited 14 oz. more of blood; and another 5 oz., bright red and frothy, at 4 a.m. Morphine was again given hypodermically, and Ruspini's styptic internally. The patient sank and died without further symptom.

After his death, his wife informed us that the onset of the illness was sudden pain in the chest and difficulty of swallowing, coming on as he was eating a potato.

Necropsy.

A necropsy was made by Dr. Salusbury Trevor, who reported to the following effect: On the anterior wall of the oesophagus were two injected areas, each about the size of a sixpenny bit, one at the level of the cricoid, and the other $\frac{2}{3}$ in. lower. In the middle of each a scratch could be seen with a hand lens. Below the lower injected area was a longitudinal scratch, leading downwards towards a traction diverticulum in the usual situation above the right bronchus. Opposite this pouch, on the left postero-lateral aspect of the oesophagus, was an oval opening, nearly $\frac{1}{2}$ in. long and $\frac{1}{4}$ in. across the centre, where the edges were ragged, from which projected, with the head towards the mouth, an ordinary pin $\frac{1}{2}$ in. in length, blackened, roughened, and a little bent. The pointed end was engaged in the hole. In the wall of the aorta (descending part of the arch), at a slightly lower level than the hole in the oesophagus, was a small ragged opening, to which clot adhered, and from which a probe could be passed directly into the oesophagus. The aorta and oesophagus were adherent along the left side of the latter from the wound downwards, and the tissue between them infiltrated with blood nearly down to the diaphragm. The aorta was rather atheromatous and partly dilated. The alimentary canal was otherwise healthy, but the stomach contained a pint of blood, and the whole intestinal canal was full of blood, emitting an offensive odour.

Dr. Trevor concluded that the pin had been swallowed head downwards, the head being arrested in the pouch and the point accordingly tilted against the opposite wall, in which it stuck. Death was obviously from loss of blood.

As no inquiry obtained from the patient elicited the necessary clue subsequently furnished by his wife, so exceptional a lesion was undiagnosed during life. The seat of the disease could be surmised without much difficulty; the sensory nerves of the parts affected are partly derived from the vagi and partly from the first four or five dorsal ganglia, chiefly of the left side, which are in direct communication with the adjacent intercostal nerves of the same side. The source of pain was presumably the stretching of the parts infiltrated with blood, which had extended as low down as the diaphragm. The subsidence of the blood downwards probably accounted for the fact that it was the intercostal nerves connected with the lower of the said dorsal ganglia which were the chief seat of pain.

The specimen, which was shown by me at a meeting of the West London District held at St. George's Hospital on March 25th, will shortly be placed in the Hospital Museum as No. 5328.

REQUESTS TO HOSPITALS.—Among the legacies bequeathed under the will of the late Mr. Henry Noble, Norwegian and Swedish Consul in the Isle of Man, are £1,000 each to the Seamen's Hospital and the Eye and Ear Infirmary in Liverpool.

THE EPIDEMIOLOGY OF PLAGUE: NOTE ON THE FLEAS OF RATS.

By FRANK TIDSWELL, M.B., CH.M.SYD., D.P.H.CAMB.,
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New South Wales.

IN opposition to Simond's hypothesis that bubonic plague is disseminated by fleas from infected rats, it has been urged that the fleas of rats will not bite human beings. Simond himself, whilst admitting his inability to pronounce upon the species of the fleas found by him upon rats, nevertheless clearly states that they bit human beings upon whom they were placed. Professor Galli Valerio, of Lausanne, has reported that the species of fleas found by him upon rats are *Typhlopsylla musculi* and *Pulex fasciatus*, and that neither of them will bite man. Simond's observations were made in India and Galli Valerio's in Europe, and it seemed by no means improbable that their conflicting results were due to the fleas found by them being of different species.

It does not follow that the fleas harboured by the rats in two widely different places would be exclusively of the same species. With a view to determine this point a collection of fleas was made from the rats coming under my examination during the recent epidemic of plague at Sydney. Of 100 fleas obtained, 10 were identified as *Pulex fasciatus*, 8 as *Typhlopsylla musculi*, 1 as *Pulex serraticeps*, and 81 as *Pulex pallidus*. It will be seen that no less than four species were represented, and most abundantly one (*pallidus*) not hitherto mentioned, as far as I am aware, as occurring on ordinary rats. Its stated hosts are *Mus albipes* of Socotra and *Herpestes ichneumon* of Egypt. This species bit us in laboratory trials, as did also *Pulex fasciatus* upon one occasion. *Pulex serraticeps* is well known to attack man. The remaining species, *Typhlopsylla musculi* did not bite us. The details of the observations form part of a forthcoming official report, but in the meantime it may be noted that they tend to remove an otherwise fatal objection to Simond's views.

POTASSIUM PERMANGANATE IN THE TREATMENT OF LUPUS.

By J. HALL-EDWARDS, L.R.C.P.,
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DURING my observations of a large number of cases treated by means of the x rays I have tried the action of a number of drugs in conjunction with the rays. Some have been used for the purpose of bringing about a more speedy reaction; others with the object of limiting the dermatitis. During these experiments I was early struck by the good effects produced by potassium permanganate, not only as an adjunct to x-ray treatment, but in clearing up patches left after the administration of the rays.

After having used the drug for a considerable length of time, and in a variety of ways, I discovered that the treatment of lupus by this means was not new; and my attention was drawn to an article in the BRITISH MEDICAL JOURNAL, April 5th, 1902. It appears that the use of this drug for the treatment of lupus vulgaris and erythematous was first suggested by Butte. In the article mentioned Dupuy gives the results of his observations on a number of cases treated by Butte's methods. Butte used a compress of a 2 per cent. solution of potassium permanganate, which was applied for twelve to fifteen minutes daily, for about a fortnight, or, in non-ulcerative patches, the powdered drug was spread over the part with a spatula, a piece of dry absorbent wool applied, and the whole left on the part for a quarter of an hour. This latter method is somewhat severe, and produces a considerable amount of inflammation. Dupuy maintains that the action of permanganate is more rapid than scraping, and the resulting cicatrices are softer, flatter, and less likely to contract than those following other methods. One disadvantage (he says) is that the tissues are considerably stained.

After trying many methods I have now for some time used one, with such good results, that I make no apology for bringing it before your readers. I use a saturated solution of the salt, which is made by dissolving a drachm in an ounce of distilled water. In non-ulcerative cases I first wash the patch with carbolic or ichthyol soap, and afterwards wipe it over with a pledget of cotton wool moistened with methylated spirit. When dry I apply the solution of potassium