condition because of her fear of doctors. She had written to her general practitioner asking for hypnotics, but he had realised that he had not seen her for years and had gone to her house. On examination he found gross abdominal distension, wasting of the upper half of the body, and oedema of the legs and abdominal wall. He persuaded her to be admitted to hospital.

On admission the clinical appearance (figure) was typical of a giant ovarian cyst. Because of her worsening dyspnoea it required urgent decompression.

Appearance of patient on admission. She was unable to lie on her back or her right side.

Under general anaesthesia 44 l of cyst fluid were drained, and another 13.5 l were drained during the subsequent five days. Her condition improved after operation and she was transferred to the general ward, but on day 2 her systolic blood pressure fell suddenly to 40 mm Hg and her central venous pressure rose to 20 cm water. There were signs of pulmonary oedema. She was returned to the intensive care unit and given intermittent positive-pressure ventilation, frusemide, and digoxin. She received whole blood, human plasma protein fraction, and dopamine. Haemoglobin, serum electrolyte, and creatinine concentrations were normal, but the blood urea concentration, which had been 10 mmol/l (60 mg/100 ml) on admission, fell to 2.2 mmol/l (13.2 mg/100 ml). Serum albumin concentration (normal on admission) fell to 19 g/l and protein to 40 g/l. Between days 3 and 6 she passed 38.9 l of urine, giving a negative fluid balance of 17.4 l. Urinary sodium loss rose to 1820 mmol(mEq)/24 hours.

Systolic blood pressure varied between 60 and 110 mm Hg. She developed bronchopneumonia, which was treated with erythromycin. By day 12 her cardiovascular state had improved only slightly, but because of suspected peritonitis laparotomy was undertaken. A 5 kg right ovarian cyst was removed: it had collapsed and become detached from the draining catheter. A cystic (1 kg) left ovary was also removed, but she was not fit for hysterectomy. A double ellipse of redundant abdominal wall was excised and tracheostomy performed. After operation, in addition to intensive cardiorespiratory support, she received prednisolone and regular peritoneal lavage (cephazolin 1 g in 500 ml physiological saline). She remained unable to breathe spontaneously until day 24, but when spontaneous respiration was established her physical and psychological condition rapidly improved. She was transferred to the general ward on the 34th day and went home on the 48th day. She had needed a total of 13 units of whole blood and 45 units of human plasma protein fraction. At follow-up she was well, had been out shopping, and weighed 62.2 kg.

The cysts were benign mucinous cystadenomas. The total weight of the right ovary and its contents had been over 62.5 kg.

Comment

Except for two fatal cases in the eighteenth and nineteenth centuries,¹ this is the largest ovarian cyst reported in Britain and shows the problems that may follow decompression and removal.¹⁻³ Preliminary decompression is not always necessary or desirable,^{4,5} but our patient was unfit for a prolonged operation when first admitted. Preoperative

digitalisation has been suggested² to prevent cardiorespiratory failure: the reasons for its delayed onset are not clear, but reabsorption of oedema fluid, protein loss, paradoxical movement of the thinned unsplinted diaphragm, and changes in vascular tone may be contributory factors. Potentially fatal¹ intestinal distension was prevented by excising redundant abdominal wall and using a binder.^{2,5} The patient's psychological state necessitated sedation and much nursing support. We emphasise that postoperative cardiorespiratory failure may be delayed in onset, and, since it may be severe and prolonged, we suggest that such large cysts should be treated only in hospitals equipped to deal with it.

We thank the medical and nursing staff of the intensive care unit of Frenchay Hospital for their skill and co-operation, and Mr C M Davidson for permission to report this case.

¹ Symmonds RE, Spraitz AF, Koelsche GA. Large ovarian tumor. *Obstet Gynecol* 1963;**22**:473-7.

² Hoile RW. Hazards in the management of large intra-abdominal tumours. *Ann R Coll Surg Engl* 1976;**58**:393-7.

³ Hunter DJS. Management of a massive ovarian cyst. *Obstet Gynecol* 1980;**56**:254-5.

⁴ Bezjian AA, O'Leary JA. A massive (121-lb) ovarian tumour—pre-operative siphonage and excision. *Obstet Gynecol* 1971;**38**:214-6.

⁵ Foreman JM. A massive ovarian cyst. *Lancet* 1960;ii:1200.

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Frenchay Hospital, Bristol BS16 1LE

J O DRIFE, MRCOG, senior house officer in general surgery (present appointment: lecturer in obstetrics and gynaecology, Bristol Maternity Hospital, Bristol)

G A TROTTER, FRCS, registrar in general surgery

Intestinal scholochiasis: an unusual fistula

Scholochiasis was defined by Hope in 1837¹ as meaning the presence of lepidopterous larvae within the human body. This was based on a single case reported by a Scottish surgeon in the eighteenth century when a boy vomited a live caterpillar of the cabbage white butterfly. There are no subsequent reliable records of this phenomenon, probably because such larvae pass through the alimentary tract unnoticed.² We report a case of colocolocutaneous fistula producing liquid faeces containing copious fruit seeds, dead larvae, and one live caterpillar.

Case report

A 65-year-old woman presented with a 10-day history of constipation, increasing lower abdominal pain, and abdominal distension. Examination disclosed tenderness in the left iliac fossa and a mass in the left side of the pelvis on rectal palpation. Abdominal radiography and sigmoidoscopy showed no abnormality. Repeat abdominal radiography the next day confirmed dilatation of the large intestine, and at laparotomy an obstructing mass was found at the rectosigmoid junction and relieved by fashioning a transverse colostomy.

After operation she became critically ill with septicaemic shock and acute renal failure, which were successfully treated. During the next week she developed a wound infection, draining copious pus containing many seeds, which were also present at defecation. In the third week two larval structures were found in the pus from the abdominal wound, the first in a dressing and the second in a bag appliance placed over the infected area. At the end of the fourth week a live caterpillar was found on the bottom sheet when she was turned during bed bathing.

The larvae were analysed (JM) and identified as partly digested caterpillars of the family Papilionoidea, probably from the family Pieridae, which includes the cabbage white butterfly. The live caterpillar was identified as coming from the same family. Copious plant seeds found in the pus were identified at Kew Gardens Research Laboratory as seeds of the blackberry.

Comment

The dead larvae, which undoubtedly came from our patient, were in poor condition and initially thought to be beetle larva. Cautious cleaning, however, showed the ring of crochets of a lepidopterous pseudopod, and a scanning electron micrograph later confirmed a

typical head including mandibles and ocelli. Damage prevented specific identification.

The live caterpillar was found near the uncovered fistula while the patient was being washed. As she was in total isolation and two dead but similar larvae had been expelled from the wound, most probably the caterpillar also emerged from the fistula.

We thank Mr Julian Neely for permission to report this case, and the London School of Hygiene and Tropical Medicine for help in the investigations.

¹ Hope FW. On insects and their larvae occasionally found in the human body. *Transactions of the Royal Entomological Society of London* 1837; 2:256.

² Maunder JW. Hexapoda. In: Donaldson RJ, ed. *Parasites and western man*. Lancaster: MTP Press, 1979:32.

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Department of Surgery, Crawley Hospital, West Sussex

J A SMALLWOOD, MB, FRCS, registrar in surgery (present appointment: lecturer in surgery, Queen Alexandra Hospital, Portsmouth PO6 3LY)

Department of Entomology, London School of Hygiene and Tropical Medicine, London WC1

J MAUNDER, MSC, FRES, lecturer in medical entomology

MATERIA NON MEDICA

Lost history

The recent discovery in the vaults of the Royal Society of microscope slides prepared by the seventeenth-century microscopist Antony van Leeuwenhoek has awakened interest in other lost or forgotten scientific treasures. Where, for example, are the 26 priceless microscopes which Leeuwenhoek bequeathed to the Royal Society (along with the newly found slides) and with which he rocked the scientific world with discoveries that heralded the new sciences of protozoology and bacteriology? The microscopes he made and which he used with skill and patience were small and mechanically crude and consisted of a single biconvex lens mounted between two plates of thin metal. The tiny ground and polished lens was, however, far from crude. It was a marvel of precision, and its resolving power, over an unusually wide field, was extraordinary. Leeuwenhoek was undoubtedly one of the

to some accounts, they were lent to Sir Evered Home, an eminent surgeon, after which all trace of them was lost. This is just one of many instances of rare and irreplaceable instruments being lost or even destroyed.

Another is the mystery surrounding the disappearance of the observatory instruments of John Flamsteed, the first Astronomer Royal. His widow is reputed to have had them destroyed in a fit of pique. She certainly had cause for resentment because her husband received little support or thanks throughout the 44 years he spent in the observatory assiduously carrying out what he described as "long and painful labours." Yet it seems unlikely that Mrs Flamsteed would have destroyed the instruments that had meant so much to her husband. More possibly she had them removed to a secret place out of reach of his successor and, perhaps more especially, of Sir Isaac Newton, for whom neither she nor her husband bore any love. Some day Flamsteed's important instruments, including the massive mural arcs, the equatorial sextants, the astronomical telescopes and clocks with which he laid the foundations of modern fundamental astronomy may be found, to be reinstalled in all their glory in Flamsteed House, in the original Royal Observatory at Greenwich.

But perhaps the oddest story of all is how the legendary microscope collection amassed by George III was lost to the nation. The collection was a source of pride to the King, and included instruments dating back to earliest models. After he died the collection passed into the hands of Queen Victoria, who was not much interested in microscopes and who presented the collection to King's College, Cambridge. The story then took a strange turn in the appearance of Sir Frank Crisp, a well-respected office bearer of the Royal Microscopical Society and an enthusiastic collector of old microscopes. He was apparently allowed to take possession of the priceless collection on the understanding that on his death his own instruments, together with the George III collection, would be bequeathed to the nation. Unfortunately, he did not mention this arrangement in his will, and without satisfactory documentation the Crown could not lay claim to the

instruments. On 17 February 1925 both the Crisp and the Royal collections were sold off piecemeal at Stevens Auction Rooms, Covent Garden, London. Not only was a magnificent collection of considerable historic importance lost to the nation, but, what was equally sad, no one seemed to care.—ARTHUR FRANK, Jersey, CI.

John Marshall's "New invented microscope for viewing the circulation of the blood in fishes" (left) was introduced in 1693. It was inclinable and incorporated an effective focusing system. The all-brass microscope introduced by John Cuff of London in 1744 (right) represented an outstanding advance in design and can be seen as the precursor of present-day microscopes.

A microscope of the pattern devised by the English optician Edmund Culpepper about 1730. Its push-pull focusing system is crude and inefficient.

master lens-makers of all time, but right up to his death in 1723 he maintained a secrecy about his lens-making and observing techniques. Sadly, these 26 microscopes with their amazing lenses are now out of reach of the researcher and historian. They were last in the possession of the Royal Society early in the nineteenth century, when, according