investigations offered no support for diagnosis of a vasculitic process. Transoesophageal echocardiography revealed a 1.2 cm mobile non-calcified mass on a structurally normal mitral valve consistent with a vegetation. The patient remained febrile with a rising neutrophil count and C-reactive protein, but extensive microbiological investigations yielded no causal organism. Non-bacterial thrombotic endocarditis was considered the most likely diagnosis.

Over the next two weeks she was kept on intravenous antibiotics and anticoagulated, receiving enteral feeding and full supportive care. There was no neurological recovery over this time. A further embolic event occurred with development of an acutely ischaemic leg. After extensive discussion with her family and the specialists concerned (cardiology, neurology, haematology, microbiology) it was decided that further interventions (tunnelled intravenous access, percutaneous gastrostomy placement, mitral valve replacement) would not be in the patient's best interests. Treatment was withdrawn and she died soon afterwards. At necropsy the diagnosis of non-bacterial thrombotic endocarditis was confirmed, vegetations being present on the mitral and aortic valves. Embolic infarcts were found in brain, kidneys, spleen, lungs, heart and adrenals. Disseminated carcinomatosis was evident, with a mass in the right lung surrounded by an extensive area of infarcted lung parenchyma accounting for the CT appearances. Histological examination showed this to be a poorly differentiated adenocarcinoma.

COMMENT

Non-bacterial thrombotic endocarditis, variously termed marantic, Libman-Sacks or verrucous endocarditis, typically occurs in the setting of malignancy, most commonly lung adenocarcinoma.¹ It is also seen in other states of hypercoagulability, for example antiphospholipid syndrome,² and in acute conditions such as burn injury.³ Antemortem diagnosis is rare, but in postmortem series of cancer patients the prevalence has been as high as 1.3%;^{1,4} even this may be an underestimate since the verrucae are friable and embolize easily, so that little of them may remain on the valves at postmortem.⁵

Clinical diagnosis is difficult, since there are no pathognomonic features and cardiac murmurs may be absent. Echocardiography is currently the most useful diagnostic investigation, to be followed by transoesophageal echocardiography if appearances are normal but clinical suspicion is high. The vegetations are predominantly left-sided masses situated on structurally normal valves.⁶ Cerebral embolic events are the most common manifestation,⁵ and imaging typically shows multiple disseminated strokes of heterogeneous sizes.⁷ Sometimes the condition is hard to

distinguish from a vasculitic process. Treatment is directed at the underlying disease.

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Trematodes in two travellers

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With a rising immigrant population and increasing international tourism, schistosomiasis is a diagnosis to be borne in mind.

CASE HISTORIES

Case 1

A woman from Zimbabwe, aged 23, attended for sexual health screening after an episode of haematuria that had resolved with trimethoprim. For the past three months she had also experienced irregular vaginal bleeding, lower abdominal pain and postcoital bleeding. On genital examination an ulcerated lesion, covered with purulent exudate, was seen on the posterior lip of the cervix. Swabbing uncovered punctuate erythematous areas. Tests for sexually transmitted infections including HIV were negative, but the cervical smear revealed *Schistosoma*

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haematobium eggs. A schistosomal antibody test and urine samples for schistosomal eggs were negative. She was treated with praziquantel 40 mg/kg body weight and at three months the cervical lesion had completely resolved. Repeat cervical smear at that time was negative for schistosomal eggs.

Case 2

A man of 31 from Somalia attended after experiencing terminal haematuria for the past twelve months. On routine blood testing the only finding of note was slight eosinophilia. The red cell count in urine was $>100 \times 10^6/L$ but no schistosomal eggs were seen. Plain X-ray screening for sexually transmitted infections was negative and ultrasound of the urinary tract showed nothing abnormal. A schistosomal antibody test was positive at level four. He was treated with praziquantel 40 mg/kg and was free from haematuria one month and six months later.

COMMENT

Most cases of schistosomiasis in the UK are associated with travel to Africa, especially Malawi.¹ The infective agent is a water-borne larva (the cercaria) that penetrates intact human skin in contaminated water. The adult trematode worms reside in mesenteric veins (*S. mansoni* and *S. japonicum*) or in perivesical veins (*S. haematobium*) and produce eggs. Chronic disease results from the host's immune response to the eggs. *S. japonicum* is confined to Asia.

Early symptoms of *S. haematobium* infection are haematuria and dysuria, with genital disease in one-third of affected women.² Vulval and perianal lesions may be hypertrophic, ulcerative, fistulous or wart-like and can facilitate transmission of HIV. Cervical lesions may be cauliflower-like growths, ulcerative or polypoidal. Later features are bladder calcification and cancer, ureteric obstruction and renal failure.

Diagnosis depends on detection of eggs in tissue, urine or faeces. Urine samples should be collected between 12 and 2 pm after the patient has taken light exercise. The shedding of eggs is not constant so repeat samples may be necessary. Cervical disease can be detected by smear or biopsy.^{3,4} Serological diagnosis is by enzyme-linked immunosorbent assay, which is 76% sensitive for *S. haematobium*⁴ but does not become positive for 6–12 weeks after initial infection. A new technique seeks DNA sequences from the parasite. The mainstay of treatment is praziquantel: a single dose of 40 mg/kg gives a cure rate of 60–90%, assessed by examination of faeces or urine one month after treatment.

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Stenting for tracheobronchial stenosis in tuberculosis

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The major cause of acquired benign tracheobronchial stenosis in the UK is prolonged intubation or tracheostomy. Infective causes include tuberculosis (TB).

CASE HISTORY

A recent immigrant from China, age 36, was admitted with weight loss, dyspnoea, stridor and pyrexia. Acid-fast bacilli were identified in his sputum and he was started on antibiotics for tuberculosis (TB). CT scan showed tracheal and right-main-bronchus stenosis. Peak expiratory flow rate (PEFR) was 40 L/min. He deteriorated and rigid bronchoscopy revealed a narrow stricture 10 cm below the vocal cords (Figure 1), which was dilated. He was transferred to our centre shortly after.

A relapsing course followed, and six dilatations were performed over the next three months. To maintain tracheobronchial patency, stenting was undertaken. Under general anaesthesia the trachea was intubated with a rigid bronchoscope. The distance between the vocal cords and the level of obstruction was noted and a silicone Y stent

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