Infective endocarditis complicating psittacosis: response to rifampicin

Endocarditis rarely complicates *Chlamydia psittaci* infection.^{1,2} We describe a patient who developed insidious progressive aortic valve regurgitation while the psittacosis/lymphogranuloma venereum complement fixation (LGVCF) titres were rising. The infection responded to rifampicin after treatment with tetracycline had failed.

Case report

A previously healthy 43-year-old electrician was first admitted to hospital in August 1978 with a seven-day history of generalised aches, sweating, haematuria, oliguria, vomiting, and frontal headaches. He kept pigeons but had had no contact with a parrot. There had been no ill health among his pigeons—as verified later by the public health authorities. He was feverish (40°C) with sinus tachycardia of 120/min. There were signs of left upper lobe consolidation. Cardiac auscultation was normal. Investigations: haemoglobin 14.4 g/dl; white cell count $3.4 \times 10^9/l$ (3400/mm³), 68% neutrophils, 22% lymphocytes, 10% monocytes; erythrocyte sedimentation rate 120 mm in 1 h (Westergren); arterial oxygen pressure 7.8 kPa (58 mm Hg) and arterial carbon dioxide pressure 3.1 kPa (23 mm Hg) on room air; urine microscopy showed numerous red cells, granular casts, and white cells; plasma sodium 123 mmol(mEq)/l, potassium 3.8 mmol(mEq)/l; blood urea 7 mmol/l (42 mg/100 ml); total serum protein 57 g/l, albumin 28 g/l; aspartate aminotransferase (AST) 174 IU/l (normal 5–32); gamma-glutamyl-transpeptidase 49 IU/l (normal up to 45). Protein electrophoresis showed increase in α_1 and α_2 globulins. Chest x-ray examination confirmed left upper lobe consolidation. Tuberculin test, electrocardiogram (ECG), fluorescence antibody test against legionnaire's disease, immunoglobulins, blood cultures, and sputum examination were normal.

He was initially thought to have a "bacterial" pneumonia and was given courses of amoxycillin, flucloxacillin, benzylpenicillin, and erythromycin. He failed to respond significantly and remained feverish and delirious. He then developed a pulmonary embolus manifest radiologically as right lower zone collapse/consolidation of the lung. Venography showed extensive thrombus in the right femoral vein in the upper two-thirds of the thigh and the deep veins of that calf. He improved somewhat on anticoagulants. Fever settled and there was radiological resolution of the left upper lobe consolidation. He was discharged home. The results of virus studies were then returned, the psittacosis/LGVCF titre being 1/16. During October 1978 he had muscular aches and noticed progressive, worsening exertional dyspnoea. He was now afebrile but sinus tachycardia persisted. He had splinter haemorrhages. A summation gallop was accompanied by signs of aortic incompetence. Chest x-ray examination showed a small right basal effusion and resolving pneumonitis of the left upper lobe. Serial blood cultures were again negative. ECG showed first-degree heart block (P-R interval 0.2 s) with raised S-T segments over the inferior leads. The psittacosis/LGVCF titre had risen to 1/32. Anticoagulation was continued. He was given oxytetracycline 4 g daily for six weeks. There was no clinical response and the psittacosis/LGVCF titre rose to 1/512 (December 1978). Since he had already had erythromycin he was given rifampicin 600 mg daily for a further 16 weeks. It was then stopped. His condition improved. He is now well although signs of trivial aortic incompetence persist. The psittacosis/LGVCF titre fell steadily to 1/32 in May 1979.

Comment

Chlamydia are recognised as potential cardiovascular pathogens and are implicated in various acquired valvular heart diseases.³ Of the 107 cases of psittacosis dealt with by the Regional Virus Laboratory, Ruchill Hospital, Glasgow, between 1953 and 1969 five had "cardiac" features and one had endocarditis.⁴ Necropsy in the endocarditis case showed multivalvular lesions, pulmonary oedema, and large aortic vegetations. Our patient had no evidence of pre-existing valvular disease and developed signs of endocarditis and aortic incompetence while the psittacosis/LGVCF titres were rising. We cannot explain the rather late rise in the psittacosis/LGVCF titres. He failed to respond to large doses of tetracycline. Various other antibiotics were used without success. We are not aware of any reports of response to rifampicin, which is a bactericidal antibiotic alleged to be active at high concentration against some viruses.

The reported incidence of psittacosis is rising. In many of the patients there is no relevant "bird-contact" history. Pigeons are a major reservoir of the infecting agent. Valve damage is found in birds dying from the infection. It is rarely described in man and in the context of fatal overwhelming infections.¹ We suggest that infection in relation to contact with birds be included in the differential diagnosis of "blood-culture-negative" endocarditis.

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Problems with intravenous chlormethiazole (Heminevrin) in status epilepticus

Intravenous diazepam is a drug of first choice for status epilepticus. Administration is by either continuous intravenous infusion or bolus injection, and we have also used the rectal route successfully. For very resistant seizures, however, we have used instead a continuous intravenous infusion of chlormethiazole edisylate¹ (Heminevrin) 8 g/l in an aqueous solution of 4% dextrose, achieving control of fits in both major and minor status epilepticus with doses of 5–10 mg/kg/h by titrating fits with appropriate infusion rates. Respiratory depression and hypotension have not been serious hazards. Nevertheless, we report here several problems that we have encountered with this drug.

Recorded complications

Reaction with plastics—Intravenous chlormethiazole reacts with the plastic of giving sets and may soften the burette after four to six hours' contact. No plastic paediatric giving set is completely resistant to chlormethiazole, but certain sets—for example, Avon paediatric administration sets (Avon Medicals, Birmingham, UK)—seem more resistant than others. Chlormethiazole is apparently absorbed by certain plastics, and this is being investigated by the scientific and technical branch of the Department of Health and Social Security.

Thrombophlebitis has been a serious problem, especially with infusions of over 12 hours. Long Silastic tubes produce thrombophlebitis along the whole length of contact. Chlormethiazole apparently penetrates the walls of silicone tubing, so that the response may be due to a direct action of the drug on vessel walls or a product of interaction between drug and plastic.

Fever—All five children given the drug developed slight fever (table) (not reported before to the Committee on Safety of Medicines; personal communication), and we saw three children with hyperpyrexia—namely, temperatures of 39–40°C. There was no laboratory evidence of infection, and when chlormethiazole was stopped their temperatures fell. The manufacturers tested the solutions for pyrogens but with negative results.

Severe headache occurred in all five children: the older ones complained, but the younger ones were irritable. Sixteen other cases have been reported to the Committee on Safety of Medicines (personal communication).

Effects of Chlormethiazole on five children with seizures resistant to diazepam

Case No	Age	Duration in days	Headache	Thrombophlebitis	Peak temperature (°C)
1	3y 11m	31	++	+++	37.5
2	5y 1m	4	++	++	38.5
3	6y 5m	16	+++	++	39.8
4	8y 2m	5	++	+++	39.6
5	2y 8m	15	++	+++	39.9