Clinical Reports

Cerebellar disturbance in psittacosis

C.D. Shee

Department of Medicine, United Medical and Dental Schools of Guy's and St. Thomas's, St. Thomas' Hospital, Lambeth Palace Road, London SE1 7EH, UK.

Summary: A previously fit man developed psittacosis with marked cerebellar symptoms and signs. He was febrile but not confused, and he responded rapidly to treatment with erythromycin. Even if respiratory symptoms are minimal, psittacosis and other atypical pneumonias should be considered in any patient presenting with fever and cerebellar involvement.

Introduction

Psittacosis is caused by *Chlamydia psittaci*, an intracellular bacterium. The disease varies greatly in severity.^{1,2} In fulminant cases confusion is common and focal neurological signs may occur.^{2,3} I report a patient with psittacosis who appeared well and was fully orientated but had pronounced cerebellar disease.

Case report

A 54 year old man presented with a 2-day history of unsteadiness and difficulty with his speech. He did not feel ill or have a headache, but had had hiccups for 12 hours.

On hospital admission he looked well and was fully alert. His temperature was 39.6°C with a pulse rate of 84/min, and his chest sounded clear. There was marked dysarthria with bilateral dysdiadochokinesia. He had severe incoordination on finger-nose and heel-toe testing, with changes more marked on the left. Power was normal but the patient fell to the left on attempting to walk. There was no neck stiffness or nystagmus. The chest radiograph showed slightly patchy shadowing in the posterior segment of the left lower lobe. Investigations showed a haemoglobin of 13.5 g/dl, white cell count of $10.5 \times 10^9/l$, erythrocyte sedimentation rate of 96 mm/h and serum sodium of 132 mmol/l. Liver function tests were normal.

The following day he developed mild haemoptysis. Bronchoscopy and computed tomographic brain scan were normal. Oral erythromycin was started for suspected legionellosis, and the

temperature and cerebellar signs settled rapidly. He subsequently made a full recovery with clearing of his chest radiograph and no residual neurological problems. There was no rise in antibody titre to legionella or mycoplasma but there was a rise in chlamydia-specific immunofluorescent IgG titre from $<1/32$ at 4 days to $1/128$ at 1 and 3 months. Initial IgM titres were $<1/8$ rising to $1/32$ at 1 month and falling again to $<1/8$ at 3 months. On further questioning, the patient mentioned that racing pigeons were kept in a loft at the bottom of his neighbour's garden. However, he had no direct contact with these birds and none were known to have been ill.

Discussion

The clinical presentation of psittacosis varies from a mild influenza-like illness to fulminating pneumonia complicated by multi-organ involvement.^{1,2,3} Early reports stressed the frequency of confusion and cerebral involvement,⁴ but as milder cases are diagnosed this is seen to be less common. Of 256 reported cases in 1972 only two had encephalitis and one had lymphocytic meningitis.⁵ Rarely, encephalitis may dominate the clinical picture.⁶ Pathological changes in the central nervous system are non-specific and include meningeal and cerebral congestion, perivascular haemorrhages and lymphocytic infiltrates.^{3,4} An acute confusional state is common in toxic patients, and can mask the diagnosis of pneumonia.² The present patient is interesting in that he presented with cerebellar symptoms and signs with no cerebral disturbance and little respiratory or systemic upset. Pneumonia was suspected because of the high temperature and

Correspondence: C.D. Shee, M.D., M.R.C.P.

Accepted: 22 December 1987

abnormal radiograph. However, in view of the discrepancy between mild chest symptoms and marked cerebellar signs, bronchoscopy was performed to exclude bronchial carcinoma.

Pronounced cerebellar features have been described in legionnaires' disease^{7,8} and mycoplasma pneumonia.³ I am unaware of previous descriptions of psittacosis presenting as a predominantly cerebellar problem. Psittacosis should probably now be included along with other atypical pneumonias as a cause of acute cerebellar disturbance. Diagnosis can be difficult as in both legionnaires' disease⁷ and psittacosis⁹ there may be minimal respiratory involvement or chest radiographic changes. Furthermore, in most patients with psittacosis there is no history of contact with

birds.¹ As the confirmation of these diseases is almost exclusively serological, initial treatment is usually started in the absence of a firm microbiological diagnosis. The present patient responded well to erythromycin. Tetracycline is said to be the treatment of choice for psittacosis, with erythromycin as the recommended alternative.² In the absence of a firm diagnosis, erythromycin may be preferable as it will also cover legionella and mycoplasma pneumonia.¹⁰

In a febrile illness with marked cerebellar involvement one should think of an 'atypical pneumonia' even if there are minimal or absent respiratory symptoms or chest radiographic changes.

References

1. Isaacs, D. Psittacosis. *Br Med J* 1984, **289**: 510-511.
2. Macfarlane, J.T. & Macrae, A.D. Psittacosis. *Br Med Bull* 1983, **39**: 163-167.
3. Murray, W. M. & Tuazon, C. Atypical pneumonias. *Med Clin N Am* 1980, **64**: 507-527.
4. Sprunt, D.H. & Berry, G.P. Psittacosis - review of the literature on the lesions of the central nervous system with report of a case. *J Infect Dis* 1936, **58**: 129-133.
5. Anon. More psittacosis. *Br Med J* 1973, **3**: 704.
6. Carr-Locke, D.L. & Mair, H.J. Neurological presentation of psittacosis during a small outbreak in Leicestershire. *Br Med J* 1976, **2**: 853-854.
7. Bone, I. & Weir, A.I. Pronounced cerebellar features in legionnaires' disease. (Letter). *Br Med J* 1981, **283**: 730.
8. Maskill, M.R. & Jordan, E.C. Pronounced cerebellar features in legionnaires' disease. *Br Med J* 1981, **283**: 276.
9. Coutts, I.I., Mackenzie, S. & White, R.J. Clinical and radiographic features of psittacosis. *Thorax* 1985, **40**: 530-532.
10. Woodhead, M.A. & Macfarlane, J.T. Comparative clinical and laboratory features of legionella with pneumococcal and mycoplasma pneumonias. *Br J Dis Chest* 1987, **81**: 133-139.