Septic shock and death due to occult sinusitis


Abstract

We report a case of septicaemia and death due to occult sinusitis in an otherwise healthy adult. Septicaemia was diagnosed on clinical grounds and blood culture grew Strep tococcus pneumoniae. Maxillary sinusitis was discovered incidentally on a CT scan four days after the onset of symptoms. A sinus wash-out revealed pus which on culture was positive for Strep tococcus pneumoniae. The patient deteriorated gradually and died despite appropriate therapy. We conclude that sinusitis should be suspected in any case of septicaemia where the primary focus is not known and the patient does not respond quickly to treatment.

Case report

A 67-year-old man was admitted as an emergency with altered level of consciousness and agitation for six hours. He had been well until two days prior to admission with no previous ill health or hospital admission. He was a non-smoker, non-alcoholic and taking no medication.

Two days prior to admission he complained of mild earache and difficulty in passing urine. One admission, he was un rousable and very agitated. He was not cyanosed or shocked. His temperature was 39.3°C, pulse 120/min, BP 130/80 and respiratory rate 56/min. His pupils were equal and reacting with normal fundi. Peripheral nervous system examination was of limited value because of the agitation of the patient. Examination of the chest, heart and abdomen was normal.

Results

On admission; haemoglobin was 14d/l, white blood count 10.6 x 10⁹/l, electrolytes, urea and blood sugar were normal. ECG and chest X-ray were unremarkable. Cultures of sputum, urine and throat swab were negative. Blood culture grew Strep tococcus pneumoniae.

Initially, the patient was treated with intravenous ampicillin one gram six hourly and gentamicin 120 mg eight hourly.

Eight hours after admission he became shocked and anuric. He was resuscitated with oxygen, fluid and Dobutamine dos age. He improved temporarily but relapsed again after 24 hours. His antibiotic regimen was altered to intravenous penicillin 600 mg/6 hourly when the result of the blood cultures became known.

He was transferred to the intensive care unit for assisted ventilation and dialysis. A lumbar puncture and CT scan were performed to exclude intracranial pathology. The C.S.F. was clear and under normal pressure; leucocytes 646/mm³ with 90% polymorphs, erythrocytes 12/mm³ and no bacteria. Culture was negative after 48 hours. Pneumococcal antigen was detected by antibody coated latex particle agglutination. The total protein was raised to 4.2 g/l but sugar was low at 1.9 mmol/l. CT scan showed no intracranial pathology but fluid levels were noticed in both maxillary antra. Ear, nose and throat examination at this time showed an clinical abnorality. Bilateral antral wash-out revealed pus which on culture revealed Strep tococcus pneumoniae (sensitive to penicillin). Despite all efforts the patient deteriorated and died six days after admission.

Postmortem examination was refused.

Discussion

The essentials in the management of septicaemia are to cut off the inflow of organisms to the blood stream, to kill or inhibit those already there and to restore perfusion of the vital organs.

Removal or drainage of the focus of infection is mandatory in treating the septicaemia. In fact, if an undrained focus of infection is allowed to persist, the patient will probably remain septicaemic in spite of appropriate antibiotic therapy and eventually succumb to the infection (Murphy, 1987).

Septicaemia due to symptomatic sinusitis has been reported in patients with nasotracheal intubation (Deutschman et al., 1985) and in influenza (Todd, 1987), but not in occult sinusitis. Sinusitis can be diagnosed easily using plain X-rays or a CT scan and drainage can be affected by antral wash out.

Since speed of action is vital sinusitis should be suspected in any case of primary septicaemia.

References


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