

Letter to the Editor

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This case study emphasises the importance of specialised spinal units. Mrs RM aged 43 years with a 7-year history of T4 paraplegia died at one of our major teaching hospitals in Sydney on 25 February 2002.

The clinical history of this patient was that she was reviewed on or around the 17 February 2002 by her local doctor and he appears to have correctly diagnosed the patient as having left lower lobe pneumonia.

On review, the patient's symptoms indicated that she was deteriorating from this complication despite antibiotic treatment over a 48-h period. She was then admitted to a smaller hospital on the edge of suburban Sydney with her predominant symptoms described as 'difficulty with breathing and fever'. The hospital notes did not suggest any excessive time or delay between the initial diagnosis and treatment by the resident doctor.

Ms M's oxygen saturation decreased as a result of her left lower lobe pneumonia and the treatment with intravenous fluids. There was difficulty in providing an adequate airway to remove the infected sputum with appropriate physiotherapy (24-h day service) and with appropriate intermittent suction. With the patient's condition deteriorating, intubation was an appropriate response but apparently repeated attempts were necessary and may well have triggered the episodes of bradycardia due to vagal stimulation in this paraplegic patient. This recognised danger during the intubation of a spinal cord injured patient was not identified in the medical reports.

It is not clear as to whether the X-ray confirming the fact of the patient's localised pneumonia (left lower lobe) was repeated in order to establish whether there was an increasing collapse over this vital period of 48 h prior to her death.

While this patient's condition on admission to hospital did not apparently justify an immediate tracheostomy before attempting intubation, an adequate airway is necessary, not only to ensure an adequate inflow of oxygen but also to ensure that carbon dioxide is appropriately removed. Airways must remain as patent as possible with regular suctioning of sputum from the bronchi.

With her spinal injury at the T4 spinal level, any established deformity in this patient would not normally

cause a significant disturbance of the anatomy of the larynx and/or trachea. It is therefore not clear as to why the treating doctors had difficulties with intubation, although it is well recognised that some patients are extremely difficult to intubate visually. There was no comment in the hospital notes as to whether an attempt was made to use an intranasal tube in this patient before proceeding to an urgent tracheostomy.

This patient's deteriorating condition was also aggravated by an over-zealous use of intravenous fluids, particularly normal saline. This overload of circulating intravascular volume would have contributed to pulmonary congestion and the pleural fluid which was eventually reported at autopsy. No reference was made in the hospital notes that Mrs M was suffering from the presence of a hyponatremia (125 mmol/L; normal range 137–146 mmol/L).

This patient was given a total volume of over 4 L of intravenous fluids in each of the 24 h up to the time of her death, 48 h after admission.

On review it would appear that Mrs. M's death was the result of the inadequately treated left lower lobe pneumonia with sputum retention and hyponatremia as a complication of high-level paraplegia and pulmonary congestion and oedema with pleural effusions aggravated by overinfusion of intravenous fluids, particularly normal saline.

The lesson to be learnt from this patient's demise is that tetraplegic and paraplegic casualties should have access to spinal units when there is a need for readmission for complications such as pneumonia, septicemia or urinary tract infection. The responsible authorities must allow for an appropriate allocation of beds within every spinal unit in order for these patients to be readmitted for appropriate care by knowledgeable medical practitioners who have been trained to understand and treat the complications associated with spinal cord injury.

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