Radiologically assisted cerebrospinal fluid sampling in a morbidly obese patient
Subhabrata Halder and Stephen Wimbush

TO THE EDITOR: Performing a lumbar puncture for cerebrospinal fluid (CSF) sampling may be difficult in obese patients. We describe the use of mobile fluoroscopy to facilitate lumbar puncture in a morbidly obese patient presenting with Devic’s disease (neuromyelitis optica) — a rapidly progressive demyelinating polyneuropathy.

The patient presented to critical care with loss of vision and rapidly progressive ascending paralysis. He required early intubation and ventilation for respiratory muscle involvement. Further investigations and management were made difficult by his obesity — he weighed 245 kg on admission. CSF sampling was required, and initial attempts at lumbar puncture in the lateral position, using both 90 mm and 120 mm spinal needles, were unsuccessful.

Two-dimensional¹ and colour Doppler² ultrasound techniques have been used for subarachnoid space localisation, but the depth of the subarachnoid space in this patient made these options impractical. Computed tomography guidance was considered, but the patient was too large for the scanner. Image intensification in the angiography suite was not possible, as the patient exceeded the weight limit of the angiography table (190 kg at our hospital). Radiology assistance was sought, and successful lumbar puncture was performed in the intensive care unit, using a 20-gauge 150 mm needle guided by sequential plain x-rays (Figure 1).

Obesity is a growing problem, particularly in developed countries. Clinicians will increasingly face the problem of performing clinical procedures in obese patients. Although fluoroscopy has been used to assist CSF sampling after subarachnoid haemorrhage,³ we are not aware of it being used to facilitate a lumbar puncture that was made difficult by the patient’s obesity. We suggest that the technique should be considered in this difficult clinical setting.

Figure 1. Plain x-ray used to guide lumbar puncture

One of a series of x-ray films taken by mobile fluoroscopy used to assist placement of a 15 cm spinal needle in the lumbar subarachnoid space.

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References
"In the Flesh: the Monro Dynasty 1720–1846" is now online

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"In the Flesh" is the title of an exhibition which ran from 4 September to 1 December 2006 in the Central Library of the University of Otago. The presentation was based on Dunedin's splendid Monro Collection, which is permanently housed in the Medical Library at the Otago School of Medicine and can be accessed by scholars and researchers into the history of medicine. The Monro Collection comprises books, manuscripts and notebooks used and written during their careers by doctors of three successive generations, each named Alexander Monro — Primus, Secundus and Tertius — first as students, then later as Professors of Anatomy and Surgery at the University of Edinburgh's outstanding School of Medicine. Secundus recently featured in an article in this Journal as a pioneer of human resuscitation (see Box).

The exhibition highlights about 5%–10% of the total Monro Collection, which has some 280 printed books and 60 manuscript volumes. I was fortunate enough to attend and study this astounding display, and am delighted to report that it is entered as yet another Special Collections item ("Exhibitions") on the University Library's website (www.library.otago.ac.nz/SpecialCollections/index.html). There are the medical aspects of the exhibition; there is also the artistic level. Besides the works of the Monros, other authors are displayed, including Andreas Vesalius (together with illicit alterations to his work by Juan Valverde de Hamusco, employing the master printer Christopher Plantin), Bernhardus Albinus, Thomas Willis, Charles Bell, and others.

Dunedin and New Zealand are fortunate that Monro Tertius bequeathed this collection to his doctor son David (1813–1877: David Monro settled in New Zealand at Nelson in 1842, later becoming Speaker of the General Assembly and knighted), who passed it on to his son-in-law, the eminent scientist Sir James Hector. Then apparently, it was Lady Hector — widowed in 1907 — who had the Collection lodged in the Library of the General Assembly. Evidence indicates that Sir James Hector's son, Charles Monro Hector — who completed the first part of his medical course at Otago — finally succeeded in 1929 in his efforts to have the Collection deposited at the University of Otago. But there is a sorry tale of disputations before its eventual safe arrival in Dunedin. In 1979, the Collection was meticulously catalogued by Emeritus Professor Douglass Taylor, now co-curator of the "In the Flesh" exhibition with Kate Thompson, reference librarian at the Medical Library. Professor Taylor has set out the great historical importance of the Collection.

I am grateful to Donald Kerr, special collections librarian at the University of Otago Library, for his kind assistance. I strongly recommend the above website to readers who have even the smallest interest in the history of medicine.

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References