

Radiologically assisted cerebrospinal fluid sampling in a morbidly obese patient

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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

1. Watson MJ, Evan S, Thorpe JM. Could ultrasonography be used by an anaesthetist to identify a specified lumbar interspace before spinal anaesthesia? *Br J Anaesth* 2003; 90: 509-11.
2. Grau T, Leipold RW, Horter J, et al. Colour Doppler imaging of the interspinous and epidural space. *Eur J Anaesthesiol* 2001; 18: 706-12.
3. Eskey CJ, Ogilvy CS. Fluoroscopy-guided lumbar puncture: decreased frequency of traumatic tap and implications for the assessment of CT-negative acute subarachnoid hemorrhage. *Am J Neuroradiol* 2001; 22: 571-6. □

“In the Flesh: the Monro Dynasty 1720–1846” is now online

Ronald V Trubuhovich

“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 Monro¹ —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 resuscitation² (see Box).

The exhibition highlights about 5%–10% of the total Monro Collection, which has some 280 printed books and 60 manuscript volumes.^{1[p.125]} 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 Plan-

tin), 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 Monro⁴ 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. Evidence⁵ 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.⁵ In 1979, the Collection was meticulously catalogued⁵ 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.⁵

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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Alexander Monro Secundus, a pioneer of resuscitation

In 1774, Dr William Cullen described Monro’s methods for artificial ventilation *per* mouth to a mouth or nostril tube, or mouth to a laryngeal tube;³ with a careful description of Monro’s tactile, blind method for introducing a “bent” tube for endolaryngeal intubation; also Monro’s method of preventing the air entering the stomach during artificial ventilation, by exerting backward pressure with the lower part of the larynx onto the gullet. Thus Secundus was a (if not *the*?) pioneer of human laryngeal intubation.

References

1. Wright-St Clair RE. Doctors Monro: a medical saga. London: The Wellcome Historical Medical Library, 1964.
2. Trubuhovich RV. History of mouth-to-mouth rescue breathing. Part 2: the 18th century. *Crit Care Resusc* 2006; 8: 157-71.
3. Cullen WA. A letter to Lord Cathcart, president of the Board of Police in Scotland, concerning the recovery of persons drowned and seemingly dead. Edinburgh: 8 August 1774, 1-27. [Also, London: J Murray, 1776]. Available at: special.lib.gla.ac.uk/teach/Cullen/letter.html (accessed Feb 2006).
4. Wright-St Clair RE. Thoroughly a man of the world. A biography of Sir David Monro. Christchurch, NZ: Whitcombe and Tombs, 1971: 146.
5. Taylor DW. The Monro Collection in the Medical Library of the University of Otago. Dunedin, NZ: University of Otago Press, 1979 □