

Oral Presentation

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The use of image intensification in the management of "programmable" shunt valves

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Background

One of the criticisms of the Codman Hakim adjustable shunt valves has been the need to x-ray patients after the valve pressure has been adjusted, to confirm the new pressure setting. Many clinicians complain about the time spent waiting for patients to have their x-ray taken, and of course if the pressure alteration has been inaccurate, a further delay is incurred in resetting the valve, and waiting for an additional confirmatory x-ray. Indeed, the manufacturers of these valves are looking at ways of confirming the valve pressure setting without the need for x-rays. In August 2003, the authors moved to new purpose-built neuro-sciences' accommodation at the James Cook University Hospital in Middlesbrough. With state-of-the-art imaging facilities, including new angiography and image intensification hardware and software, we started to use image intensifiers to assess the shunt pressure setting, alter it appropriately, re-check it and rapidly discharge the patients. The whole process was taking less than 15 minutes. The authors had adopted this process without prior knowledge of any published material. However, despite a publication appearing in the *Journal of Neurosurgery* in 1997 [1] which clearly described the advantages of using fluoroscopy in this context, this seems to have been largely ignored, certainly within the United Kingdom.

This presentation will describe the authors' own experience in using fluoroscopy in adjusting the Hakim programmable valves, emphasising all its advantages, particularly in saving time. Several case illustrations will be presented to demonstrate this. It is hoped this will encourage the wider application of this method to the benefit of both patients and clinicians.

Conclusions

Fluoroscopy of "programmable" shunt valves is efficient, accurate and safe, and is to be commended as the best way in dealing with the follow-up and treatment alterations in patients with hydrocephalus fitted with Codman Hakim valves.

References

1. Kaufman B, Moran C, Schlesinger J: **Fluoroscopy of programmable cerebrospinal fluid shunt valve settings. Technical illustration.** *Br J Neurosurg* 1997, **86**:735.