Does the use of postoperative oblique skull radiographs following cochlear implant insertion change clinical management?

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Introduction
Cochlear implantation devices have enabled patients with severe to profound hearing loss to improve their hearing. Appropriate placement of the conduction array within the scala tympani is interrogated by “on table testing” of the device by an external computer to ensure satisfactory insertion.

At our centre a further investigation to confirm satisfactory surgical implant placement, is the use of an oblique skull radiograph, also known as a Stenvers view (figure 1). This is taken to detect electrode kinking and as a postoperative reference for the position of the implant.

This study looks at whether the Stenver view x-rays performed for patients post operatively have effected their subsequent clinical management.

Methods
Case notes of 42 adult patients who had undergone implantation were retrieved for review during the period 2008 – 2012. Details obtained were:

- Date of operation
- Date of radiograph
- Did any clinical change occur as a result of the radiograph?
- Were any other radiological studies used?
- Was the radiograph reported formally?

Results
40/42 operated patients had postoperative plain radiographs, 33 were formally reported, none stating any adverse findings.

Subsequent to postoperative skull radiographs, no change in management occurred in any patient. Three patients had a postoperative CT scans due to new symptoms that subsequently settled.

Discussion
This limited study demonstrates that the use of routine postoperative skull plain radiographs did not change clinical practice in these patients.

The literature states that the use of Stenvers view x-rays are commonplace. It also reports other successful evaluation methods such as intraoperative x-rays and CT scans. One study advocates the use of plain radiographs intra-operatively if there is uncertainty with placement and CT scanning in the presence of complications or adverse postoperative events.

Conclusion
In light of the audit data and evidence in the literature, other methods of placement evaluation should be considered. In our study performing x-rays postoperatively resulted in no change in the subsequent management of patients.

References

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