Conclusions: VHIT represents a new, reliable and safe technique in the paediatric population for pre-operatively identifying suspected labyrinthine fistula, which is invaluable for surgical planning, and has a role in post-operative objective assessment after surgical plugging of a labyrinthine fistula.

**OBJECTIVES**

The video head impulse test (VHIT) is a useful clinical tool to detect semicircular canal dysfunction. It involves high speed video measures of eye movement responses to head impulses. To date, there have been no reports of its use in the paediatric population. The aim of this study was to determine the utility of VHIT in pre-operative management of children undergoing mastoid surgery.

**METHODS**

Retrospective review of 10 children undergoing cholesteatoma surgery and pre-operative VHIT at Alder Hey Hospital over a 1-year period (January 2017 - December 2017). VHIT was used to predict the particular semicircular canal affected, and this was compared to the gold standard of intraoperative findings.

**RESULTS**

The median age was 10 years (range 4 to 16 years). There were 6 females and 4 males. Four patients had left sided cholesteatoma, five had right sided cholesteatoma, and one child had bilateral cholesteatoma. In our case series, VHIT had a specificity of 95% and sensitivity of 82% in detecting semicircular canal dysfunction. In 8 out of 10 cases (80%), the VHIT result was able to localise to the particular semicircular canal eroded by the fistula, which was confirmed intra-operatively. In one case, post-operative VHIT confirmed an improvement in vestibular function following plugging of the lateral semicircular canal.

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