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Preservation of the intact ossicular chain in cholesteatoma surgery

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Aim: This study was undertaken to assess the feasibility of preserving the intact ossicular chain when undertaking cholesteatoma surgery and to assess the ensuing audiological and clinical outcomes

Method: Patients were eligible for this study if at operation for cholesteatoma surgery the ossicular chain in the operated ear was confirmed to be continuous and mobile.

Patients were enrolled for this study until December 2004.

The main outcome measures were the air-bone gap in the operated ear, and whether audiological parameters satisfied the Belfast criteria.

Results: 85 patients with intact ossicular chains underwent cholesteatoma surgery during the study period.

71 patients completed surgery with intact ossicular chains.

When the ossicular chain remained intact, the mean air-bone gap one year after the completion of surgery was 12.5 dB HL. The Belfast criteria were satisfied in 82% of cases.

If the ossicular chain was dismantled and reconstructed, the median air-bone gap one year after surgery was 19.7 dB HL. The Belfast criteria were satisfied in 55% cases.

Discussion: Data presented at the 2nd Middle ear mechanics symposium in 1999 indicated that hearing outcomes after cholesteatoma surgery were best with an intact ossicular chain.

This study was undertaken to assess the outcomes if the surgical technique minimised the occasions when a continuous chain was dismantled.

The study indicates that in most cases the intact ossicular chain can be preserved and that the hearing results are improved as a result.