Hearing assessment after radical and modified radical mastoidectomy

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-89— SUMMARY AND CONCLUSIONThe aim of surgery in management of chronic suppurative otitismedia with tholesteatoma in the middle ear cleft and mastoid is tocreate a dry, care-free mastoid cavity and to preserve hearing or trying to improve it and may give the chance for hearing rehabilitation.This study included 60 patients of chronic suppurative otitis media with cholesteatoma, 52 males and 8 females with an average age of 26.6 years. They were mainly complaining of ear discharge associated with hearing loss in 96.6%, tinnitus 53.3% or vertigo 1%. They were subjected before operation to detailed history taking, full general and local examinations, laboratory and radiological investigations and pure tone audiometry. They were classified into 2 equal groups (each 30 patients) according to the surgical procedure used, whether radical (group I) or modified radical mastoidectomy (group II). Follow up with pure-tone audiometry was done one monthafter operation.Postoperative hearing results in group I (radical mastoidectomy) revealed that there was a hearing loss of 2.3 dB at 500 Hz and 4.3 dB-90—at 1000 Hz, both were statistically insignificant. While the hearing loss at 2000 and 4000 Hz was 5.5 and 6.2 dB respectively. These werestatistically significant,In group II (modified radical mastoidectomy), the postoperativehearing showed slight improvement (0.7, 3, 1.2 and 4 d11) atfrequencies 0.5, 1, 2 and 4 KHz respectively which are all statistically insignificant.Comparison of the postoperative hearing results between the two groups showed that there is no significant change at 500 Hz frequency, while the changes in the mean air-bone gap at frequencies 1000, 2000 and 4000 Hz (7.3, 6.7 and 10 dB respectively) proved to be statistically significant according to the surgical procedure used denoting higher incidence of hearing loss after radical more than modified radical mastoidectomy operation especially at high frequencies .Fistula of the labyrinth was found in nine ears (15%), these fistulae were undisturbed during operation and left covered with cholesteatoma matrix.—91—Among the 60 patients, successful meatoplasty resulted in wide meatus in 78.3% of ears (47 ears), in other 10 ears (16.7%) the meatus became just adequate for exploration of the cavity, while three ears(5%) became stenosed after operation.Other post-operative complications were persistent eardischarge in 6 ears (10%) which may be due to failure of completeeradication of cholesteatoma or infection and persistent tinnitus in one patient (1.7%).ConclusionTheoretically speaking, the modified radical mastoidectomy is the best technique suitable for management of cholesteatoma in themiddle ear cleft and mastoid air cells, but

practically, the choice of the operative procedure which best suits the patient’s individual needs depend on many factors including the pathological changes, the extentof cholesteatoma, previous operations within the ear, possibility of reconstruction and lastly postoperative rehabilitation.To avoid or minimise postoperative complications, the cholesteatoma matrix should be completely removed whenever possible. All air cells that do not connect with the middle ear must be-92--exenterated, or they will continue to discharge mucus into the cavity. -Mastoid bone work should be thorough, with the creation of a near rectangular shaped cavity with smooth edges. The facial ridge shouldbe lowered to the level of the facial nerve, The incudostapedial joint should be disarticulated early in the operation. A fistula of the labyrinth should be left covered with cholesteatoma matrix. A large meatusallows easy access to the cavity and keeps moisture from accumulating in the ear.