

Turkish Journal of Medical Sciences

Turkish Journal

of



Medical Sciences

Evaluation of Middle Ear Ventilation after Tympanoplasty by Xe-133 Scintigraphy

Hülya ORTAPAMUK¹, Hakan KORKMAZ², Zeynel ÖZTÜRK²
Güleser SAYLAM², Engin DURSUN², Adil ERYILMAZ²

¹Department of Nuclear Medicine,
Ankara Numune Research and Training Hospital, Ankara - TURKEY

²Department of Otorhinolaryngology,
Ankara Numune Research and Training Hospital, Ankara - TURKEY

 [Keywords](#)
 [Authors](#)



medsci@tubitak.gov.tr

[Scientific Journals Home Page](#)

Abstract: Aim: Eustachian tube is considered to have important role in the normal physiology of middle ear, as well as in the success of tympanoplasty operations. The study was designed prospectively to reveal the role of Xe-133 ventilation scintigraphy in the determination of eustachian tube (ET) function. Materials and Methods: Thirteen patients who underwent successful tympanoplasty with intact graft and 5 healthy volunteers were included in this study. Xe-133 insufflation into nasopharynx was done using a polyethylene 7F catheter and the patient was asked to perform valsalva maneuver followed by swallowing. Time-activity curves were generated from the region of interest (ROI) corresponding to middle ears; uptake ratio and clearance half-time of xenon 133 were also calculated in this region. Results: Decreased tracer uptake was demonstrated in the ears with tympanoplasty. Mean uptake value was 53.73 ± 15.73 in volunteers, 46.73 ± 15.28 in normal ears of operated patients and 39.99 ± 17.47 in operated ears. There was significant difference of uptake between the normal ears and ears with tympanoplasty ($P < 0.05$). However, there was no significant difference in the washout rate between normals and patients with tympanoplasty. Conclusions: Xe-133 ventilation scintigraphy is a reliable method that gives objective and quantitative information about eustachian tube function. In the early postoperative period the uptake is less than normals.

Key Words: Xenon-133, ventilation scintigraphy, eustachian tube, tympanoplasty

Turk J Med Sci 2008; **38**(6): 549-554.

Full text: [pdf](#)

Other articles published in the same issue: [Turk J Med Sci, vol.38,iss.6.](#)