Effect of cigarette smoking on the cochlear function

Sabry Ahmed El Masry

Summary and conclusions 80 SUMMARY AND CONCLUSIONSThis study was intended to throw light on the effect of cigarette smoking on the cochlea though TEOAEs which are low intensity sounds either produced spontaneously (without acoustic stimuli) or by using acoustic stimuli. These sounds are found to be produced by electromotile outer hair cells.In this study , a click evoked otoacoustic emission was used , which is an objective, non-invasive tool, easy to perform, and have high test — retest reliability .50 smokers was selected as study group with age between 20 — 40 years mean age (31.1) with no history of any ear troubles, no systemic diseases as diabetes mellitus, hypertension, also no history of noise exposure , ototoxic drug intake or head trauma , and 30 normal non smoking persons as a control group of the same age and gender , both groups of normal peripheral hearing .Both groups were submitted to history taking either general history or history of smoking ,ear, nose and throat examination and audiological evaluation by using pure tone audiometry, speech audiometry, immitancemetry and click evoked otoacoustic emissions .According to the results there was statistical significant difference in the hearing threshold level between smokers and non smokers which is more towards the higher frequencies indicating affection of the cochlea Inspite of the significant statistical difference in Pure tone response & acoustic reflex between both groups , it is still within normal limits .Summary and conclusions 81Also, it was proved that the duration of smoking can affect the cochlear function whereas the age showed no effect on the results. from the present study, it can be concluded that :I-Cigarette smoking affect the limclion of the outer hair cells leading to cochlear dysfunction .2-Hearing threshold levels were potentially affected throughout the frequency range 250-8000 IIz with more affection of higher frequencies3-Duration of smoking is positively correlated to results of TEOAEs .Recommendationd 82 RECOMMENDATIONSIt is recommended to study passive smokers to evaluate the sensitivity of the auditory system, to study cochlear function among female smokers especially with increasing tendency of females towards smoking nowadays , and to study the effect of smoking on their offspring’s. Also to follow up the study group after 5 years to evaluate the effect of longer duration on their hearing thresholds.