

Patients: 11 out of 73 patients were diagnosed with TOM and co-existent CME from January 2009-September 2014.

Interventions: Pure tone audiometry, CT-scan, PPD skin test, chest x-ray, PCR and histopathologic examinations were used as diagnostic procedures. The patients underwent single-stage tympanoplasty with mastoidectomy and anti-tuberculosis pharmacotherapy.

Main Outcome Measures: Otoloscopic, audiometric and clinical evaluations were done upon follow-up.

Results: The primary clinical feature among our cases was the presence of cholesteatoma and chronic otorrhea. No residuals or recurrences were noted upon follow-up of the patients. The mean air-bone gap improvement after surgery and pharmacotherapy was 10.5 dB. The detection of tuberculosis infection was detected via PCR in all of the 11 patients with TOM and CME. CT-scan findings showed that the majority of TOM with CME patients exhibited various characteristics that are not present in TOM alone. Most of the TOM with CME patients exhibited positive PPD test results while exhibiting negative chest x-ray results.

Conclusions: The clinical and radiologic features of our TOM with CME patients were notably different from the more frequently reported TOM cases without CME. Modest short-term treatment outcomes can be achieved when antituberculosis medical therapy is adequately given after cholesteatoma surgery among TOM with CME patients.

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ID: IP002

The Effects of electromagnetic field exposure at 900 MHz frequency emitted from mobile phones on cochlear cells

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Learning Objectives:

Aim: Technological developments encountered radiofrequency field from mobile phones in our lives. Possible side effects of electromagnetic field (EMF) need to be investigated. The aim of this study is to evaluate cytotoxic,

apoptotic and DNA damage effects of 900 MHz EMF emitted by mobile phones on House Ear Institute- Organ of Corti 1 (HEI-OC1 cell line) cochlear cells.

Methods: Cochlear cells were cultured in 6 well plates at 33°C, 10%CO₂ in humidified conditions. They were exposed to 900 Mhz EMF in conditions of 5 minutes and 15 minutes, directly and 10 cm away from EMF. EMF was applied by a 3 G cell phone and measured by Arduino EMF detector. Cell viability and apoptosis were evaluated after 24 and 48 hours after exposure for each condition and control group by trypan blue and Annexin V methods respectively. DNA damage related gene expressions were evaluated by real time PCR after RNA isolation and cDNA synthesis.

Results: Cell death was more prominent in cells which received 5 minutes of EMF at 48 h. The apoptosis ratio in cells situated 10 cm away from EMF were similar to cells that were directly exposed to 5 minutes of EMF. In gene expression results it was observed that DNA damage related gene expressions were increased in cells after EMF exposure in 48 hours. The expression levels are nearly same in cells that were 10 cm away from EMF. The genes that showed high expression than control are Bax, Gadd45a, Gadd45 g, Mpg, Msh2, Rad51c and Xrcc3, which are related to apoptosis induction and DNA repair.

Conclusion: EMF at high dose for 5 minutes caused cell death via apoptosis in HEI-OC1 cell line in vitro. This result was supported by apoptosis detection and DNA damage related gene expressions. Apoptosis was prominent in 5 minutes and similar for both direct and close distance exposure. Further in vivo and in vitro studies with different doses and distances are needed to evaluate the effects of EMF on cochlea.

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Friendship of Capsaicin and Cisplatin in HEI-OC1 Cells

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Learning Objectives:

Introduction: Cisplatin (CDDP) is anticancer agent with serious side effects like ototoxicity. Capsaicin, the active ingredient of chili peppers, has protective effects against CDDP induced renal toxicity. The aim of this study was to evaluate the role of capsaicin on CDDP induced apoptotic cell death and DNA-damage related genes in House Ear Organ Corti (HEI-OC1) cells.