SUMMARY

Inorganic lead toxicity is a well-known entity. This metallic element has many applications and is commoly found in home and industrial surroundings.

This study was carried out to evaluate the toxic effect of lead on the inner ear structure and hearing threshold level.

Our epidemiological study was conducted on 1000 Egyptian subjects from the suburban of Kalyoubia Governorate that were divided into 2 groups, 500 lead - exposed subjects in their daily job and 500 controls (sex and age matched) .For all the studied groups B-pb level, EPP and HTL were estimated. BAEP was done on 50 exposed subjects only. There was statistically significant difference between both groups in B-pb level, EPP level in blood and in HTL. Related to lead exposed subjects there was a +ve significant correlation between B-pb level and HTL and there was +ve correlation between B-pb level, age and duration of exposure to lead. The subgroup (randomly taken from the exposed subjects) that was tested by (BAEP) 4 subjects only from 50 lead - exposed subjects showed prolongation in IPLP (I-V) .

In the experimental study that was conducted on 30 guinea pigs (20 guinea pigs poisoned by I .P injection of 1% lead acetate solution at concentrations 10mg and 20mg and 10 guinea pigs with 0 mg as

controls), and their cochleaes examined histologically after the end of the injection period (5 weeks) and by using the light and electron microscope, there were a variable degree of degenerative changes in the cochlear nerve fibres with normal cellular structure of the inner ear, according to the degree of concentration of lead acetate injection (10mg or 20mg) while in 0mg no degenerative changes occur.