**Original article**

**Etiological evaluation of hearing loss in chronic renal failure**

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**Abstract:**

**Background**: Hearing loss is common in patients with chronic renal failure,but its cause is controversial with several potential mechanisms that have been postulated in literature.

**Objectives**: To assess the degree and type of hearing loss in patients with chronic renal failure and to evaluate the relationship between various etiological factors and hearing loss in these patients.

**Materials and methods**: 60 adults aged 18-60 years,with nonsyndromic chronic renal failure were included in a prospective comparative study and categorised based on average pure tone threshold into 2 groups of 30 each i.e. Group 1/“Hearing Loss” group with >25db sensorineural hearing loss (which was further subclassified) and Group 2/“Non-Hearing Loss” group with ≤25dB hearing loss.History relevant to the study was obtained followed by examination.Investigations such as pure tone audiometry, haemoglobin, renal parameters and serum electrolytes were done.

**Results**: Statistically significant (p<0.05) higher mean duration of chronic renal failure and hemodialysis was noted in Group1.Serum sodium and potassium levels were lower in group 1; however only the association between sodium levels and hearing loss was strongly significant (p<0.001). Blood urea and serum creatinine levels were higher in group 1,but this was statistically not significant. Within Group 1, majority (56.7%) had high frequency hearing loss.

**Conclusion**: High frequency hearing loss in chronic renal failure is related to the duration of the disease, duration of hemodialysis and internal homeostasis, namely hyponatremia. Early detection can prevent further deterioration of hearing by minimising exposure to ototoxic agents, noise or haemodialysis changes wherever possible.

**Keywords**: Audiometry, Hearing Loss, Kidney Failure, Renal Dialysis