ABSTRACT
A 40 year old male presented with painful, reddish nodules over arms and trunk also had complaint of hearing loss. Slit skin smear and skin biopsy were done and it was diagnostic of lepromatous leprosy. Pure tone audiogram was performed and results were conclusive of bilateral sensori-neural hearing loss (SNHL). To conclude, cranial nerve involvement in Hansen's disease is rare. High index of suspicion, good history and clinical examination is necessary for diagnosis. Here, we present a rare case of lepromatous leprosy with bilateral sensori-neural hearing loss.

Key words- Hansen's disease, Pure tone audiogram, Sensori-neural hearing loss.

INTRODUCTION
Hansen's disease (leprosy) is a systemic disease affecting the cooler parts of the body, especially the skin, peripheral nerves, and the upper respiratory tract. The lepra bacilli can be found anywhere in the body with the exception of the central nervous system. Peripheral nerves are most commonly involved in leprosy and also cranial nerves like olfactory, trigeminal and facial nerves involvement was observed.

CASE REPORT
A 40 year old male presented with painful, reddish nodules over the face(Figure 1), trunk, arms with symmetric distribution. Few of the nodules were ulcerating. Hyper pigmented patches were seen over elbows and the dorsal aspect of arms (Figure 2), since 15 days. He had similar complaints 6 months ago for which he took medication. He had a bilateral hearing loss for the past 3 months, which was insidious in onset. There was no history of head injury, vertigo and tinnitus. No history of consumption of ototoxic drugs, exposure to sudden explosions or long term occupational noise exposure.

On general physical examination his vitals were normal. Rinne test was performed, revealed that air conduction (AC) was more than bone conduction (BC) in both ears. Finding on the Webers test were lateralised to the right ear. Absolute bone conduction was decreased on both sides. These findings suggested vestibulocochlear nerve dysfunction. Upon careful examination of peripheral nerves, bilateral ulnar and popliteal nerves were tender, enlarged and thickened.

On investigation, complete blood picture showed anaemia (haemoglobin: 6.4gm%), white blood cells count showed mild leucocytosis (23,100/cumm), erythrocyte sedimentation rate was 20 mm/hr and ELISA for HIV was negative. The rest of the other routine investigations were normal. On specific investigations, slit skin smear showed 5+ acid fast bacilli and skin biopsy showed an increased number of dermal vessels, infiltration of neutrophils and foamy histiocytes in the dermis. On Ziehl-Neelsen stain, lepra bacilli were seen. Above findings were diagnostic of lepromatous leprosy. To document sensori-neural hearing loss (SNHL), audiological evaluation with pure tone audiogram (PTA) was
performed and based on British society of audiology, it revealed severe SNHL in right ear and profound SNHL in left ear.

DISCUSSION

Leprosy is one of the commonest causes of peripheral neuropathy. It also involves cranial nerves. Most common cranial nerves involved are facial and trigeminal nerves. The relationship between hearing loss and leprosy was noticed by Decandio et al in 1960 who recorded a specific involvement of cochlea and acoustic nerve in leprosy patients. However, other authors like Cochrane et al, argued that the 8th nerve is never affected in leprosy. Usmanov et al studied the auditory and vestibular function in leprosy patients, reported 61% of perceptive type of deafness among leprosy patients. Cochleo-vestibular status in leprosy patients was assessed.
by Mann et al observed that cochlear type of hearing impairment among 11 patients (44%) and the vestibular functions were not affected in any of the leprosy patient. In a study conducted by Koyuncu et al, authors found cochlear nerve involvement in 22% of cases and vestibular nerve involvement in 11% of cases whereas Gopinath et al found cochlear nerve involvement only in 3% patients with no vestibular nerve involvement. Sudhir et al found 20% cochlear and 20% vestibular sensorineural hearing loss among the studied patients. However, in most of the above reports, SNHL was not documented by the pure tone audiometry. In our case hearing impairment of cochlear type was confirmed by audiometry. Other common causes of SNHL were ruled out.

CONCLUSION
Cranial nerve involvement in Hansen's disease is not uncommon. However the involvement of vestibulocochlear nerve is rare. Unexplained cranial nerve involvement warrants the active consideration of leprosy. High index of suspicion, good history and clinical examination is necessary for diagnosis.

REFERENCES