

IDIOPATHIC SUDDEN SENSORINEURAL DEAFNESS — AN APPROACH TO THE PROBLEM

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INTRODUCTION

Idiopathic sudden sensorineural deafness (SDN) presents as an otological emergency, occurring as an incidence of 7.5 per 100,000 person per year (1). Causes range from round window membrane rupture (2) barotrauma, ototoxicity, syphilis, multiple sclerosis, Cogan's syndrome, encephalitis and hyperviscosity syndrome. However idiopathic SDN occurs in a normal person, in any age group, with no apparent cause. The person experiences sudden onset of deafness. There may be associated tinnitus and vertigo, with feeling of stuffiness of his ear. Occasionally there may be vertigo, headache and/or vomiting.

METHODS AND MATERIALS

Over the last two years, from January 1985 to October, 1986 a total of 11 patients presented to us with such a condition. An apparent increase in such cases prompted a standard protocol for proper assessment and management of these patients.

A full history of these patients was recorded and a thorough examination, including the CVS, CNS and ENT examination was done for all these patients.

All patients were admitted immediately to the ENT ward and a pure-tone audiogram and tympanometry were done. The patients were started on intravenous Dextran 40 (2 pints in 24 hours for 2 days duration), Serc (1 tablet tds) and Prednisolone 60 mg daily in tapering dose over three weeks.

Daily serial audiograms were done up to one week. Additional investigations included a full blood count and blood sugar. Vertiginous patients had an ENG study together with X-rays of the internal auditory meatus.

RESULTS

Out of the 11 patients, 7 (63.5%) were males and 4 (36.6%) were females. The ages ranged from 23 to 43 years, with a mean of 32.1 years (Table 1).

The hearing loss was right-sided in 6 (54.6%) and left-sided in 4 (36.6%) of the patients (Table 2). There was one case of bilateral hearing loss. The duration of hearing loss prior to seeking medical attention varied between one day and two months. Fortunately, 8 (72.7%) of the patients sought treatment within 5 days of the onset of their hearing loss.

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TABLE I PATIENT DATA

No	Age (In years)	Sex	Date Admitted
1	27	Male	17/10/1985
2	25	Female	7/ 1/1985
3	43	Male	3/10/1985
4	34	Female	13/ 6/1985
5	23	Male	17/ 9/1986
6	28	Male	12/ 9/1986
7	40	Male	22/ 4/1986
8	36	Male	16/ 5/1985
9	27	Female	26/ 8/1986
10	33	Female	20/ 9/1986
11	38	Male	13/10/1986

There was mild vertigo in 3 patients. Other symptoms included distorted hearing (1 patient), pain in both ears (1 patient), and warm sensation in the ear (1 patient).

The hearing loss* ranged from 40 dB to 90 dB in the affected (* = Average of 500, 1000 and 2000 Hz) ear (Table 3). Only 4 (36.6%) had less than 60 dB loss. Patients who had low frequency loss (Sensorineural loss at 250, 500 and 1000 Hz) formed 54.6% of the patients. 3(27.2%) had high frequency loss (Sensorineural loss at 1000, 2000 and 4000 Hz) and 2 patients had a flat audiogram.

Daily serial audiograms done showed remarkable improvement in 8 (72.7%) patients (Table 3). All of them had normal hearing within one week of starting treatment. 6(54.6%) of these patients had low frequency loss. 72.7% had sought treatment within 5 days of onset of hearing loss. The patient with bilateral hearing loss of one week duration did not improve and neither did the patient with deafness of two months duration.

DISCUSSION

Idiopathic SDN occurs suddenly in a perfectly normal person with previously normal hearing. There is no specific etiology attributable to it. Various theories have been postulated, varying from viral, vascular and round window membrane rupture. Studies have been done to show degenerative changes involving the organ of Corti and tectorial membrane (3).

Because of its unknown etiology, treatment has been empirical, ranging from steroids, vasodilators, carbon dioxide inhalants and rest in bed (5) An exploratory tympanotomy may be undertaken in the event of non-improvement of the hearing loss (4). Comparison of results of these studies is made more difficult by the fact that approximately 50% of these patients undergo spontaneous recovery. In spite of extensive diagnostic

TABLE 2 CLINICAL DATA

No.	Ear Affected	Duration of Symptom	Tinnitus	Vertigo	Others
1	Right	2 months	Nil	Nil	—
2	Left	3 days	Nil	Nil	Pain both ears
3	Right	1 day	Nil	Present	Distorted hearing
4	Right	2 days	Present	Present	—
5	Right	5 days	Present	Nil	Warm sensation
6	Right	2 days	Present	Nil	Dull ache
7	Left	5 days	Present	Nil	—
8	Left	5 days	Present	Nil	—
9	Right	1 week	Present	Nil	—
10	Left	4 days	Present	Nil	—
11	Bilateral	1 week	Nil	Nil	Nil

TABLE 3 CLINICAL DATA

No.	On Admission	HEARING LOSS (dBHL)				
		Low/High Frequency	2nd day	3rd day	4th day	1 week
1	70 dBHL	Flat	70	70	70	70
2	80 dBHL	Low	80	60	60	Normal
3	50 dBHL	High	50	50	50	35
4	60 dBHL	Low	50	Normal	Normal	Normal
5	50 dBHL	Low	Normal	Normal	Normal	Normal
6	70 dBHL	Low	Normal	Normal	Normal	Normal
7	70 dBHL	High	65	65	50	Normal
8	70 dBHL	High	40	35	Normal	Normal
9	70 dBHL	Low	60	30	Normal	Normal
10	90 dBHL	High	90	90	90	80
11	40 dBHL	Flat	40	40	40	40

workup, no cause can be elucidated in very many of these patients (6).

Our study of 11 patients showed that a combination of rest in bed, intravenous Dextran 40, Serc and steroid therapy produced good improvement in 72.7% of them. This effect is more so if the treatment commenced within 5 days of onset of symptoms. The results were better on patients who had low frequency loss (54.6%), as compared to those with high frequency loss. 72.7% of the patients had almost normal hearing within one

week of starting treatment, some even after the third day.

CONCLUSION

The etiology and management of idiopathic SDN remains speculative and empirical. We believe that an approach combining rest in bed, steroids and vasodilators has a significant improvement in these patients.

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