

Superior Semicircular Canal Dehiscence Commonly Ignored Diagnosis-A Case Report

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Case Report

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Abstract

Superior semicircular canal dehiscence (SSCD) is a condition caused by the absence of bone over one or both of the superior semicircular canals that leads to dysfunction of the vestibular end as result of formation of third window besides round and oval window resulting in altered fluid dynamics. We present a case of 48 year old man presenting with vertigo and aggravation of symptoms with noise. CT temporal bones revealed, bilateral SSCD which was detected in 5 mm interval coronal images. Thus in a middle age group individual presenting with vertigo a diagnosis of dehiscent superior semicircular canal should be considered.

Keywords: Nystagmus; Stenver; Cholesteatoma; Autophony

Introduction

Superior Semicircular Canal Dehiscence (SSCD) is defined as an absence of bony covering of the membranous labyrinth of the superior semicircular canal [1]. In some patients, this finding is associated with a constellation of symptoms including autophony, aural fullness, sound and pressure-induced vertigo, tinnitus, and conductive hearing loss¹. The prevalence of SSCD is unknown and varies depending on the detection modality utilized. While the classic presentation can be suspected on clinical and audiometric data, imaging plays an important role in the evaluation of these patients [1,2]. Advances in CT now allow submillimeter high resolution

images to demonstrate the bony defect, while multiplanar reformations can also aid in the radiological diagnosis [3].

Case Report

We present a case report of 48 year old male patient present to the outpatient department complaining of vertigo and aggravation of symptoms with noise. HRCT temporal bones were done which showed bilateral SSCD which was detected in 5 mm interval coronal images (Figure 1). There was right side dehiscence and left side dehiscence. SSCD was also detected in axial planes on the right side and it measured 2.4 mm and on the left side and it measured 2.7 mm.

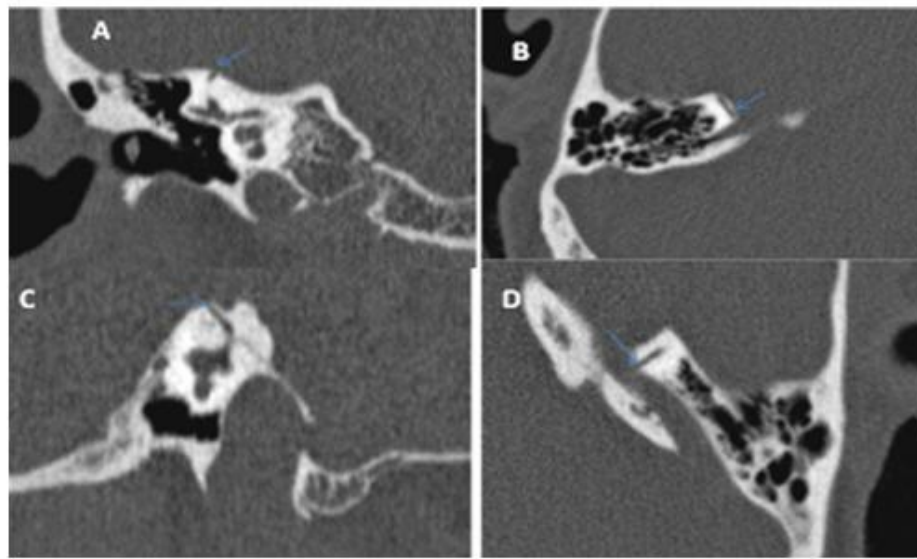


Figure 1: A 48 years old male patient complaining of vertigo CT temporal bones revealed: Bilateral SSCD which was detected in 5 mm interval coronal images (A) right side dehiscence (arrowed) and (C) left side dehiscence (arrowed). SSCD was also detected in axial planes on the right side (arrowed) (B) and it measured 2.4 mm and on the left side (arrowed) (D) and it measured 2.7 mm.

Discussion

Superior semicircular canal dehiscence is described superior semicircular canal abnormality, where a clinical disequilibrium phenomenon is associated with the absence of its bony covering. Patients presents commonly with vertigo [2,3], Tulio phenomenon is associated with SSCD where patients experience vertigo and nystagmus with loud noises [4]. In practical experience at our institution, the radiologic diagnosis of SSCD is made more commonly among middle and older age groups [5,6]. There is a statistically significant increase in the prevalence of radiographic dehiscence as age increases and an increasing trend but no significant increase in prevalence of thinning with age [6]. No significant association between thinning and contralateral dehiscence or vice versa, suggesting that thinning occurs independently of dehiscence [5]. While there may be a congenital basis for some cases of SSCD, our data support the impression that SSCD is more commonly an acquired rather than a congenital/developmental condition [7,8].

The key diagnostic features on CT imaging are a defect in the bony covering of the SSC, best seen in the coronal plane in thin slice temporal bone CT demonstrates and on Pöschl and Stenver reformatted images together with axial images improves the diagnostic efficacy [9,10].

Differential Diagnosis that can be considered are thinning of arcuate eminence that is the bony covering of semi-circular canal may be seen due to ageing. Treatment is mainly Surgical Plugging or resurfacing the superior semicircular canal has been documented to resolve or improve the symptoms [9,10].

Conclusion

The prevalence of SSCD as well as SSC thinning, being in same etiological spectrum and acquired conditions increases with age which is now a well established relationship. The association with CSOM and cholesteatoma was not found which is again important for the operating surgeon. HRCT imaging provide important tool in diagnosing the condition in clinically suspected individuals. Thus in a middle age group individual presenting with vertigo a diagnosis of dehiscent superior semicircular canal should be considered.

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