ORIGINAL RESEARCH PAPER

Otolaryngology

KEY WORDS:

HIGH RIDING JUGULAR BULB. IDENTIFY AND BE CAUTIOUS.

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ABSTRACT

The jugular bulb is the dilated internal jugular vein at the jugular foramen at skull base, which drains transverse and sigmoid sinuses which develops in early childhood. When the sigmoid plate is dehiscent It leads to dehiscent jugular bulb which bulges into middle ear cavity. Jugular bulb is ideally below the hypotympanum. It is called high riding jugular bulb when it comes in the middle ear or reaches superior to tympanic annulus encroaches within 2mm of Internal auditory meatus. If the jugular bulb is dehiscent surgeon should be careful while elevating the tympanomeatal flap or else might end up in torrential bleeding. In some conditions it might be forming the inferior wall if the middle ear and external auditory canal. High jugular bulb is not a contraindication for middle ear surgery, but the surgeon should be well aware whether to continue with the surgery or to abandon before complications occur. If it's found impinging on the ossicles or round window niche better to abort the procedure.

The jugular bulb is the dilated internal jugular vein at the jugular foramen at skull base, which drains transverse and sigmoid sinuses which develops in early childhood. [1,2] when the sigmoid plate is dehiscent .It leads to dehiscent jugular bulb which bulges into middle ear cavity. Jugular bulb is ideally below the hypotympanum. It is called high riding jugular bulb when it comes in the middle ear or reaches superior to tympanic annulus encroaches within 2mm of Internal auditory meatus. A high riding jugular bulb has been implicated as the cause of symptoms including dizziness, conductive hearing loss, SNHL, vertigo, pulsatile tinnitus. [3,4,5,6] The prevalence of high riding jugular bulb has been cited from 8-32.5% [4,7,8] Also literature shows estimated incidences of dehiscent jugular bulb approximately 5%(3.5-7%) of symptomatic population (tinnitus) [9,10]. In one histological study of high jugular bulb was found in 3.5% of 815 temporal bone samples. [11] When present it causes retrotympanic pulsatile mass. Mostly symptom depends on its location. Varies from conductive hearing loss, pulsatile tinnitus. If present at petrous apex can cause vertigo, SNHL and tinnitus. [12] High jugular bulb can mimic menieres disease with severe acute vertiginous attack as reported in a case study of 6 patients. [13]

In the perspective of a ENT surgeon it is important to identify the jugular bulb at the earliest. On clinical evaluation it will show blue mass behind the tympanic membrane . If mistaken for the middle ear tumour and biopsied, consequences can be disastrous. [14] So preoperative evaluation especially thorough clinical examination, a CT scan to look for presence of sigmoid plate. HRCT is the preferred imaging modality. [15] If the jugular bulb is dehiscent surgeon should be careful while elevating the tympanomeatal flap or else might end up in torrential bleeding. In some conditions it might be forming the inferior wall if the middle ear and external auditory canal. (figure1,2) High jugular bulb is not a contraindication for middle ear surgery, but the surgeon should be well aware whether to continue with the surgery or to abandon before complications occur. If it's found impinging on the ossicles or round window niche better to abort the procedure.

COMPLIANCE WITH ETHICAL STANDARDS: this study has no conflict of interest. This article does not contain any sudy with animals or human participants performed by any of the authors.

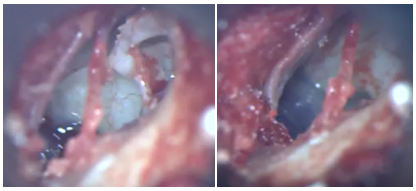

Figure: 1 and 2: high jugular bulb, dehiscent forming inferior wall of middle ear and EAC

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