International Journal of Otorhinolaryngology and Head and Neck Surgery
Shah K et al. Int J Otorhinolaryngol Head Neck Surg. 2024 Apr;10(2):239-241
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

DOI: https://dx.doi.org/10.18203/issn.2454-5929.ijohns20240707

Case Report

Profiling of right internal jugular vein phlebectasia: a rare case study

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Received: 21 January 2024
Accepted: 11 March 2024

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ABSTRACT

Internal jugular vein phlebectasia (IJP) is a congenital non-tortuous dilatation of the internal jugular vein that manifests as a soft, compressible mass in the neck under stress or while doing the Valsalva maneuver. As per a review of several articles, children are more likely to be impacted than adults. It is a benign disorder that often exhibits no symptoms. However, alterations in voice, paralysis of the vocal cords, and/or dysphagia are some symptoms that may be observed. The present case report is that of a 4.5-year-old male child with right IJP and cervical lymphadenopathy, who presented with symptoms of swelling in the neck on straining and pain while swallowing.

Keywords: IJP, Case report, Valsalva maneuver

INTRODUCTION

Jugular vein phlebectasia (JVP) is a congenital saccular or fusiform nontortuous dilatation of the jugular vein that manifests as a soft, compressible mass in the neck when under stress from crying, coughing, or sneezing, or it may be evident by doing the Valsalva maneuver.

JVP frequently manifests on the right side.[1] It is a benign disorder that often exhibits no symptoms. Phlebectasia denotes an abnormal dilatation of vein's outer walls without tortuosity, whereas varix denotes both dilatation and tortuosity.

Possible reasons include idiopathic conditions, congenital structural flaws in vein wall, mechanical compression or trauma, and severe anatomic abnormalities.[2] According to systematic review, children are more likely to be impacted than adults. In terms of sex ratio, males in pediatric group and females in adult group are more affected. Alterations in voice, paralysis of vocal cords, and/or dysphagia are some symptoms observed. Proximity of IJP to vagus nerve and other lower cranial nerves is cause of all of these symptoms.[3]

Diagnostic procedures include computed tomography, magnetic resonance imaging with magnetic resonance angiography/ MR venography, catheter-directed venography, and duplex USG scanning. When there are no symptoms/mild manifestations only, treatment is primarily conservative.[4] Surgery is recommended for cosmetic purposes/in cases of complications like phlebitis, thrombosis, and Horner's syndrome.[5]

CASE REPORT

A 4.5-year-old male child reported to us with the complaint of swelling in the neck on the right side and pain while swallowing solid food. The swelling was evident only while straining, coughing, and crying and disappeared at rest (Figure 1). No significant birth history was reported. On the oral peripheral mechanism examination, all oral structures were normal in appearance and adequate in functioning. On formal language testing, the child had age-appropriate speech and language skills.

The ability to cough and vary pitch and loudness was good. The child had difficulty and pain during

swallowing hard solids and the parents reported weight loss. On swallowing evaluation, prolonged oral phase, overstuffing in mouth, and occasional effortful swallow with increased difficulty with solids were observed. The oral transit time was within normal limits and a complete hyolaryngeal excursion was present. Parents reported that the child commonly preferred semisolid to solid consistencies and smaller bites of a bolus. On the sensory feeding scale, the following subsections showed abnormally high scores-single food focus, expulsion, and overstuffing. On the about your child's eating questionnaire (AYCE), child's resistance to eating (score of 42 out of 60) and positive mealtime environment (score of 24 out of 35) subsections showed higher scores suggestive of feeding problems.

Figure 1: Appearance of cervical swelling after coughing.

Neck vessels Doppler and MDCT scan of the neck revealed the presence of fusiform enlargement of the right IJV measuring 3.7×1.7×1.7 cm extending from the right infraclavicular region to infrahyoid region. USG neck showed cervical lymphadenopathy at level IIa and bilateral grade 2 tonsillar hypertrophy. Diagnosis of right IJV phlebectasia and cervical lymphadenopathy was made. On palpation, soft, non- tender, fluctuant, non-mobile reducible swelling was seen.

DISCUSSION

Gerwig coined the term "phlebectasia" to describe an abnormal fusiform vein dilatation.[6] Jugular phlebectasia, also known as venous aneurysm or ectasia, involves the dilation of the jugular vein, presenting as a cystic lesion in the neck that compresses and is triggered by straining.[3]

Potential causes of jugular phlebectasia encompass idiopathic, anatomical, congenital, mechanical, or traumatic origins. This condition is predominantly observed in children, more frequently in males than females, and tends to manifest on the right side of the neck rather than the left. The proximity of the right innominate vein to the apical pleura on the right side makes the right jugular vein more susceptible to dilatation. As a result, any increase in intrathoracic pressure could be directly transmitted to the right internal jugular vein.[7]

The probable diagnosis for healthy children presenting with a soft neck lump that becomes apparent only during straining is jugular phlebectasia. Although there are various other causes for neck masses, only a select few, including cysts originating from the superior mediastinum, branchial cleft cyst, laryngocele, and jugular phlebectasia, tend to enlarge when the patient performs the Valsalva technique.[4]

They are typically asymptomatic although an uncomfortable feeling while swallowing, giddiness, etc. have been noted. The pressure effect on nearby structures especially the vagus nerve and its recurrent laryngeal nerve branch could be the cause of these problems.[8,9] In our case, the symptoms that are probably attributed to this pressure effect on the nerves mentioned are pain while swallowing and swallowing difficulty.

Ultrasound or color doppler flow imaging (CDFI) is performed in combination with Valsalva's breathing test for diagnosis. Longitudinal constriction suture venoplasty plus encapsulation is usually performed in individuals with IJV.[10] In this case, surgery was not opted by the parents of the child. According to research, conservative treatment should be used if patients refuse surgical intervention.[11]

JVP exhibiting no or mild symptoms requires diligent monitoring without the need for any immediate intervention. Typically, surgical treatments are considered in cases involving aesthetic concerns or the presence of complications. However, it is important to note the considerable surgical risks associated with this procedure, including potential harm to adjacent structures such as the carotid artery, cranial nerves (tenth, eleventh, or twelfth), the phrenic nerve, or the brachial plexus if the mass extends deeply. Surgical complications may also encompass air embolism or the formation of venous thrombus.[12]

CONCLUSION

When children display neck swelling, a thorough evaluation is essential. If a child presents with a neck mass that increases in size during activities elevating intrathoracic pressure, like the Valsalva technique, consideration should be given to the possibility of JVP. Congenital internal jugular phlebectasia is a rare occurrence, and its diagnosis necessitates confirmation through imaging. Surgical intervention is only warranted in the presence of complications. In most cases, conservative management of this condition is preferred.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Shah K, Chavan P. Profiling of right internal jugular vein phlebectasia: a rare case study. Int J Otorhinolaryngol Head Neck Surg 2024;10:239-41.