Duplicated Internal Juguler Vein

İnternal Juguler Ven Duplikasyonu

İnternal Juguler Ven Varyasyonu / Variation of the Internal Juguler Vein

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Özet

İnternal juguler ven duplikasyonu (İJVD) nadir görülen bir anomalidir ve literatürde insidansı % 0.4 olarak bildirilmektedir. 45 yaşında kadın olgu, hastanemize pulsatil olmayan boyun şişliği nedeniyle başvurdu. Magnetik rezonans görüntülemede, sol internal juguler venin mandibula köşesinde ikiye ayrıldığı, karotid arterin önünden mediyastene ilerlediği görüldü.Klinisyenler boyun şişliği ile başvuran hastalarda internal juguler ven duplikasyonu olabileceğinin farkında olmalıdırlar. Görüntüleme tekniklerinin gelişmesiyle daha fazla internal juguler ven duplikasyonu vakasına rastlanmaktadır.

Anahtar Kelimeler

Juguler Ven; İnternal; Duplikasyon

Abstract

Duplicated internal juguler vein (DIJV) is a rare anomaly and reported incidence is 0.4 % in the literature. A 45-year-old female patient was referred to our hospital because of non pulsatile neck swelling. The magnetic resonance image (MRI) showed left IJVs divided at the angles of the mandible running anterior to the common carotid artery until anterior mediastinal level. Clinicians should be aware of the rare possibility of duplicated IJVs in patients presenting with neck swelling. The development of imaging technics have revealed more cases of duplicated internal juguler vein.

Keywords

Jugular Vein; Internal; Duplicate

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Introduction

Duplication of the internal jugular vein (DIJV) is a rare anatomical finding with an estimated incidence of approximately 0.4 per cent among the general population[1]. The internal jugular vein is an important landmark in most cervical operations. The surgeon should know the exact position and possible variations to prevent complication[2]. We think it was interesting, and this variation alerts clinicians and surgeons performing neck, vascular, or reconstructive surgery about unexpected variations of the internal jugular vein in the hope of preventing inadvertent injury.

Case Report

A 45-year-old woman presented to the neurosurgery and cardiovascular surgery clinics with two months history of intermittent neck swelling. The swelling occurred once three years lasting two to three months. She had no other significant past medical history. On examination, there was no obvious swelling. A systemic examination was unremarkable. Magnetic resonans imaging (MRI) scan requested. The MRI showed left duplicated IJVs divided at the angles of the mandible running anterior and posterior to the common carotid artery until anterior mediastinal level. While posterior part continuity with the left brachiocephalic vein anterior part joined to left subclavian vein.(Figure 1) All these findings were confirmed by color Doppler ultrasonography.(Figure 2) We make the consultation with Ear nose and throat (ENT) and neurosurgery. After the consultation that we decided the no need surgical treatment for neck swelling.

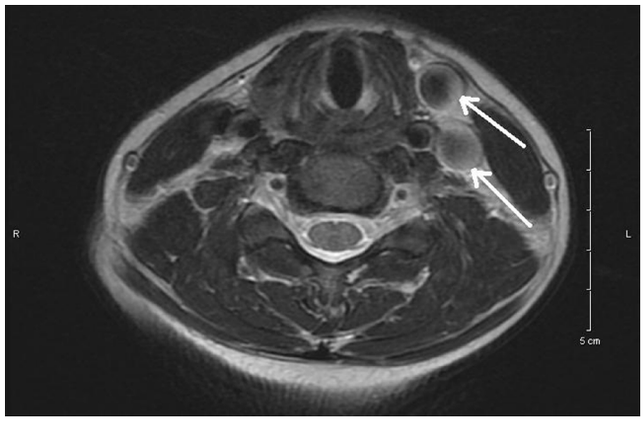


Figure 1. Axial T2 weighted MR shows duplicated IJV at the neck level.

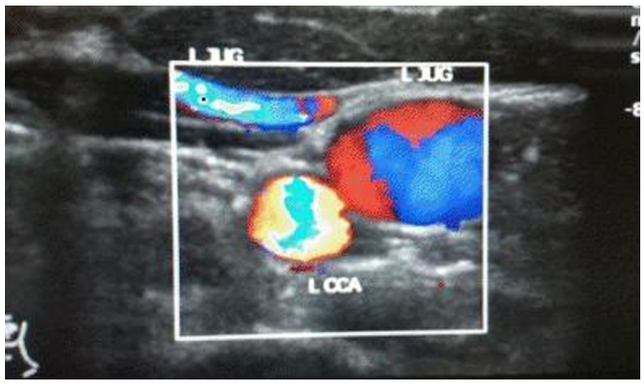


Figure 2. Doppler ultrasonography shows the duplicated left internal juguler vein.

Discussion

The IJVs are the major venous drainage channels in the head and neck. They begin at the jugular foramen, run lateral to the carotid artery in the carotid sheath, and join the subclavian vein behind the sternoclavicular joints to form the brachiocephalic veins. The anatomical course of the jugular veins is usually very consistent; however, anomalies do occur, which may present as a neck swelling or be an subclinical finding [2,3]. Downie et al.[4] previous reports of IJV anomalies have used the terms 'duplicated' and 'fenestrated' interchangeably. The main difference between these two conditions is that duplicated IJVs comprise two separate branches along the whole length of the normal pathway, whereas in fenestrated IJVs the two branches reunite before draining into the subclavian veins. Suitable term of our case is duplicated internal juguler vein because of IJV duplicate the level of high and reunite before draining into the subclavian veins in our patient. For this reason that duplicate or fenestration terms must be carefully used for these cases. The term of duplicated internal vein terms in the literature were seen commonly. Turan-Ozdemir, Munoz et al.[5,6] showed IJV duplications in the literature. All of these vessels were right side anomalies and branched at the C3–C4 level. Turan-Ozdemir et al.[5] found the anomalous IJV branch in the superficial fascia surrounding the thyroid gland. It was ectactic and tortuous. To our knowledge, 12 cases of duplicated IJVs have been reported: 10 unilateral and two bilateral. Only three cases presented with clinical symptoms, and were subsequently diagnosed on imaging. Of the nine subclinical cases, six were intra-operative findings during neck dissection[6].

Duplication of the internal jugular vein is usually reported in association with phlebectsia, which is a soft non-pulsatile cervical swelling that increases in size during a Valsalva manoeuvre[7].

The our patient was admitted to our hospital because of intermittant neck swelling without pain. Over the last decade, advances in imaging and the development of surgical approaches have revealed more cases of duplicated IJVs. The presented case provides additional information regarding clinical presentation,as our patient only had intermittent neck swelling but other cases may dyspnoea and dysphagia. Clinicians should be aware of the rare possibility of duplicated IJVs in patients presenting with neck swelling. If such an anomaly is diagnosed, we would conclude that a conservative approach is indicated, as there is currently no evidence that duplicated IJVs cause any adverse health outcome.

Competing interests

The authors declare that they have no competing interests.

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