Phlebectasia of the Jugular System

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Summary

Developmental anomalies of the internal jugular system are rare. Phlebectasia of the jugular system is an abnormal fusiform dilatation which is seldom described in the literature. We present five cases of jugular phlebectasia in the neck. It is of interest to note the symptomatology which was different in each of these cases.

Key words

Internal jugular vein – Phlebectasia

Introduction

Only a few cases of jugular phlebectasia have been published in the medical literature. They have been reported under different names such as: congenital venous cyst (Harris, 1928), venous aneurysm (Schatz and Fine, 1962; Gilbert et al., 1972), "venomes du cou" (Fevre 1967; Lefrecbe et al., 1975), or internal jugular phlebectasia (Garrâu et al., 1964; Gerwig 1952; La Monte et al., 1976; Matsuba et al., 1985). Clinically, phlebectasia appears as a cyst-like mass, round or fusiform, without alteration or change in the overlying skin, which increases in size during coughing, crying, and the Valsalva manoeuvre.

In this paper we present five cases in which phlebectasia was confirmed by surgical exploration (Table 1). In 2 patients computerized tomographic studies demonstrated the venous ectasia.

Report of Cases

Case 1

A 35-year-old women was examined in our department because of a painful nodule on her left mandibular ridge. The physical examination revealed a non-pulsatile mass, measuring 0.5 × 0.5 cm., situated close to the point where the pulsations of the left facial artery were palpated as it crossed the mandible. X-rays of the jaws and neck were normal.

During surgical exploration, a thrombosed and dilated facial vein was encountered under the platysma, at the lower border of the mandible. The mandibular branch of the facial nerve was identified, carefully dissected and the thrombosed vein was then excised.

Case 2

A 14-year-old boy was admitted to our department because of a non-tender mass in the right neck. The swelling appeared only during crying, singing, the Valsalva manoeuvre or physical straining. The non-pulsatile mass measured 3 × 4 cm. No thrill or murmur were detected. The child denied pain, dysphagia or respiratory problems. The mass completely disappeared when the patient relaxed. The past history was not contributory, the patient was in good health with no history of trauma or operation on the neck. X-rays of the neck, lungs and tomography of the larynx failed to reveal abnormalities. The patient's neck was explored. A dilated saccular anterior jugular vein was identified on the right side. The vein was dissected out and excised. The anterior jugular vein on the opposite side was of normal calibre. The patient was symptom-free following discharge from the hospital. Pathological examination of the specimen revealed the vessel wall to be structurally normal.

Case 3

A 65-year-old man, with a long history of smoking, presented with progressive hoarseness. A squamous cell carcinoma of the larynx localized to the anterior commissure with anterior subglottic extension was confirmed by biopsy. Radiography of the chest, barium swallow and thyroid scan did not reveal any abnormality.

Computed tomography of the neck and larynx showed a large contrast-enhanced mass below the right sternocleidomastoid muscle in the region of the internal jugular vein (Fig. 1). Ultrasound examination of the neck revealed a right internal jugular vein more than twice as large as that on the left (Fig. 2). There were no physical signs of the existence of this phlebectasia.

A one-stage frontolateral laryngectomy and reconstruction with a free composite nasoseptal autograft was performed (Laurian and Zohar, 1981). The right neck was explored. The internal jugular vein was identified under the sternocleidomastoid muscle. The otherwise completely normal vein was dilated to a diameter of 4.5 cm. There was no thrill, bruit or crepitus. No treatment was given for the phlebectasia.

The patient had an uneventful postoperative

Table 1  Data concerning the 5 patients with phlebectasia

<table>
<thead>
<tr>
<th>Patient</th>
<th>Sex</th>
<th>Age</th>
<th>Symptoms</th>
<th>Localization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>35</td>
<td>Painful swelling</td>
<td>left anterior facial vein</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>14</td>
<td>Non tender, swelling on straining</td>
<td>right anterior jugular vein</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>65</td>
<td>Asymptomatic</td>
<td>Right internal jugular vein</td>
</tr>
<tr>
<td>4</td>
<td>F</td>
<td>70</td>
<td>Pain in the neck, signs of acute inflammation</td>
<td>Left internal jugular vein</td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td>14</td>
<td>Non tender, swelling on straining</td>
<td>Left posterior facial vein</td>
</tr>
</tbody>
</table>
recovery. During the follow-up, metastatic lymphadenopathy did not develop.

Case 4
A 70-year-old woman, presented to our department with a 10-day history of sore throat, fever and a painful swelling in her left neck. She had received antibiotics for 7 days before her hospitalization. The swelling had gradually enlarged during the few days prior to her visit.

Past history was not contributory, with the patient in good health until 10 days before the time of admission. No history of trauma to the neck was noted.

Physical examination revealed a fusiform swelling deep to the sternocleidomastoid muscle measuring 6 cm. in the longitudinal, and 4 cm. in the transverse axis. The mass was smooth, fluctuant, and did not pulsate. No bruit or thrill were present, but it was very tender. Examination of the larynx revealed a left vocal cord palsy.

Blood tests revealed mild leukocytosis with polynucleophilia. The other analyses including immunoglobulin electrophoresis were normal.

Radiography of the neck, chest and a barium swallow all showed no abnormalities. Fine needle aspiration obtained only blood. Computed tomography of the neck revealed a large contrast-enhanced mass below the left sternocleidomastoid muscle, in the region of the internal jugular vein (Fig. 3). Ultrasound examination of the neck also revealed an enlarged vessel below the sternocleidomastoid.

Neck exploration after a difficult dissection of fibrotic adhesions demonstrated a dilated internal jugular vein 5 cm. in diameter. The wall of the dilated vein was thick, fibrotic and non-compliant.

A direct puncture of the internal jugular vein produced a few drops of darkish venous blood. There was no free flow of blood, the vein looked partially thrombosed. Three enlarged inflammatory lymph nodes were found close to the vessel, and were excised. The vein was dissected back to normal vein and ligated. No other abnormality was observed in the neck.

Histology of the lymph node showed non-specific inflammatory reaction.

The patient received broad spectrum antibiotic treatment for Gram positive and negative bacteria. The swelling in the neck slowly disappeared during the subsequent 12 days and the left vocal cord paresis resolved as well. The patient was symptom-free after discharge from hospital. The origin of the internal jugular vein thrombosis in this patient seems to be related to the jugular phlebectasia and the modified anomalous venous drainage, which facilitated the development of thrombosis secondary to a pharyngeal infection and lymphadenitis.
Case 5
A 14-year-old girl was admitted to our department for evaluation of a left parotid mass. The 2 x 3 cm. mass had a doughy consistency and enlarged when the patient was laughing or straining. The skin covering the mass had a slight bluish colour.

A tentative diagnosis of haemangiomia of the parotid gland was made. The parotid region was explored. A posterior facial vein phlebectasia was found. The dilated vein was identified by its course and relations. After identification of the facial nerve, the enlarged posterior facial vein was followed in the parotid compartment where rich vascular tributaries were found. A partial superficial parotidectomy was done enabling us to excise the dilated vein and its tributaries. The wound was closed in layers. Hemovac tubes were inserted.

The pathology report revealed dilatation of the vein with thinning of its walls. Postoperative recovery was uneventful.

Discussion and Conclusions
There are four conditions which have the characteristic of appearing in the neck on straining, coughing, sneezing, bending or the Valsalva manoeuvre:
1. tumours or cysts of the upper mediastinum;
2. external laryngeal diverticula or laryngocoeles;
3. venous enlargement of the internal jugular vein or one in direct continuity with it;
4. inflation of the cupola of the lung.

The first conditions appear in the median/lateral region of the neck, the fourth in the supraclavicular region. Besides the four conditions which have already been described, cavernous haemangiomia, cystic hygroma, bronchiogenic cyst, cervical adenitis and metastatic adenopathy should also be considered in the differential diagnosis.

Phlebectasia is an abnormal fusiform dilatation of a vein, differentiated from "varicose" which implies tortuosity plus dilatation (Gerowig, 1952). Since 1928 when first described by Harris, isolated cases of phlebectasia of the external jugular vein, of the anterior jugular vein, and of the posterior facial vein have been reported [Derrick and Spencer 1962; Alonso and Chambers, 1970; Gilbert et al., 1972; Wadley, 1972].

Pataro et al. (1961) described the histological findings of a phlebectatic jugular vein that showed a loss of elastic layers and hypertrophy of the connective tissue. Thrombosis in a dilated jugular vein has seldom been described (Farrar, 1969). Histopathological examination of thrombosed segments found the vessel to be structurally normal with occasional inflammation (Farrar, 1969; Passariello et al., 1979).

To date, the cause of internal phlebectasia has not been clarified in the literature. Most authors refer to compression of the internal jugular vein against the lung, clavicle, tortuous aorta, or other structures at the root of the neck (Derrick and Spencer, 1962; Garrow et al. 1964; La Monte et al., 1976). Unfortunately, none of our cases, except case 4 as described, could be related to any of the causative factors mentioned. In all our patients surgical exploration which was performed confirmed the diagnosis.

It is to be remembered that phlebectasia is not always an innocuous condition. Thrombosis and phlebitis of the jugular vein system may be facilitated by the modified haemodynamics produced by the dilated vein.

We can conclude that CT scan seems to be the most valuable procedure to be performed preoperatively and in our cases it proved its usefulness in the establishment of the diagnosis.

References
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