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Vascular Diseases Quiz – Case 45

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A 45-year-old male patient was admitted to the vascular department after presenting with a non-tender mass of the right side of the neck. This mass first appeared 10 days earlier and has not significantly changed its dimensions. At that time, the patient had been in bed rest due to upper respiratory tract infection with fever up to 40 °C and throat pain. Infection signs had improved over the course of a few days and the patient had not received antibiotic therapy. Past medical history was insignificant.

On physical examination, a 3×3×1.5 cm in size, non-tender well-defined, semi-mobile, soft mass was palpated at the front edge of the right sternocleidomastoid muscle. No signs of skin inflammation were present and other system examinations were normal. Laboratory tests reported increased CRP levels of 82 mg/L. The rest of routine laboratory tests were within normal values. An ultrasound scan of the area revealed internal jugular vein thrombosis, as no colour filling was observed and the vein was not compressible (fig. 1). Signs of tissue inflammation existed around the thrombosed vein in the overlying sternocleidomastoid muscle and fascia.

The patient asked:

1. Are thrombosis and his prior sore throat somehow connected?
2. What is the necessary treatment?
3. Is this condition potentially dangerous?

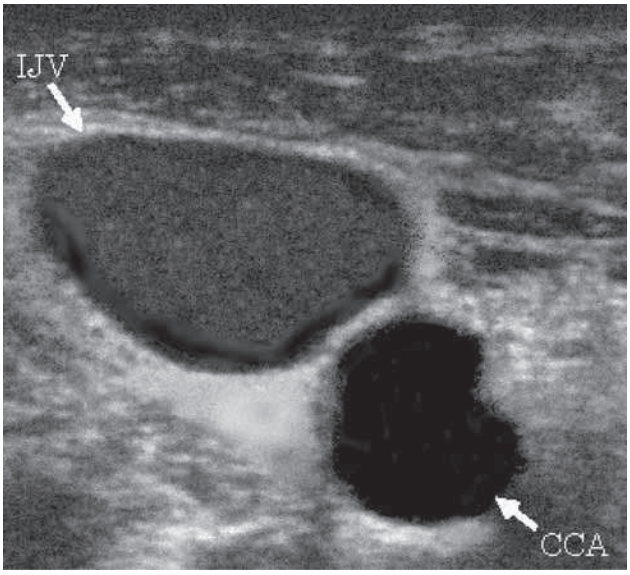

Figure 1. Right internal jugular vein (IJV) presents with hypoechogenic content (sign of thrombosis), while right common carotid artery (CCA) is patent.

Comment

Thrombosis of the internal jugular vein (IJV) has been previously described as the result of peritonsillar abscess, tonsillitis, acute otitis media and or odontogenic sepsis. The exact mechanism is not clear.

This patient's clinical presentation is typical with a mass located at the anterior edge of the sternocleidomastoid muscle. This mass can be tender or not at touch. Signs of upper respiratory infection are also present, e.g. fever, sore throat, along laboratory results confirming the presence of infection with leucocytosis, elevated CRP and ESR.

In most cases, ultrasound duplex scan is sufficient to set the diagnosis, although mandible and skull base parts of the IJV may not properly examined; magnetic resonance imaging (MRI) can be used to assist and or confirm these cases. Venography is now considered obsolete and it is rarely used.

Treatment for IJV thrombosis consists of intravenous antibiotics and low molecular weight heparin. Antibiotic treatment can be focused if throat cultures are positive for specific microbes; otherwise, broad-spectrum antibiotics can be administered. In those cases, where IJV thrombosis presents after the full remission of infection signs, antibiotics might not be necessary.

Lemierre's syndrome is the poorest prognostic outcome for this patient. This syndrome presents with signs of severe sepsis (low arterial pressure, poor urine output, tachycardia, fever) and IJV thrombosis. If left untreated, Lemiere's syndrome might lead to septic shock and or septic embolism; both resulting in high morbidity. In fit patients with moderate signs of infection, prognosis is good if the proper treatment is administered.

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Answers:
1. Yes
2. Broad-spectrum antibiotics and low molecular weight heparin
3. In some cases, if this case is left untreated, it could lead to Lemierre's syndrome