Internal Jugular Vein Phlebectasia (IJVP) in a one year old Warmblood horse

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Introduction

The differential diagnosis for unilateral venous swelling in the jugular groove of horses includes trauma-induced hematoma, external jugular vein dilatation due to an obstructive process or an arterio-venous fistula and (peri)phlebitis caused by a non-aseptic or perivenous injection. Differentiation is usually made based on history, clinical examination and ultrasound findings.

Case description

Case history

A one year old stallion was presented with an intermittent swelling along the jugular groove. At birth, no abnormalities had been noticed, but at 4 months of age a swelling started to occur intermittently, especially when the foal's head was lowered. Over the following months, the clinical signs became more prominent but the foal didn't seem to suffer from it.

Clinical examination

At first sight the horse appeared normal, except for a venous pulsation in the lower third of the jugular groove. When lowering the head, a large, painless, fluctuating swelling located all over the right jugular groove became visible, most pronounced just behind the mandible. Based on clinical findings a dilatation of the external jugular vein was suspected.

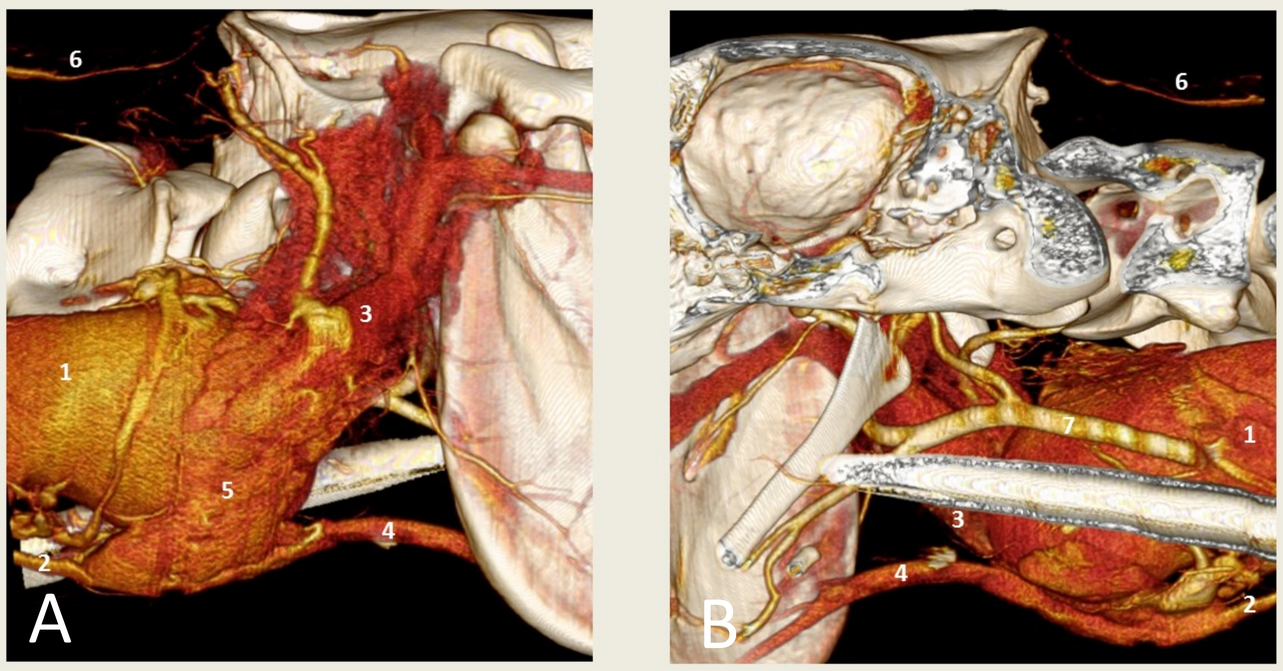
Arrows indicate the swelling along the right jugular groove when lowering the head, most pronounced just behind the mandible.

Ultrasonographic findings

Ultrasound confirmed the venous nature of the swelling, which showed a blind ending caudal to the mandible. The vessel maintained the same enlarged diameter as it entered into the thoracic inlet but no obstruction could be detected. Cardiac examination revealed no abnormalities.

Contrast Enhanced CT (CECT)

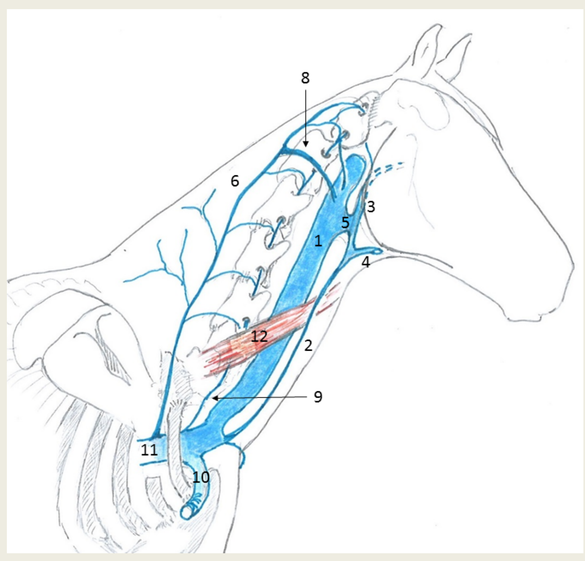
Under general anaesthesia, CECT from the ethmoid to C2 was performed. On the right side, dorsal to a relatively small external jugular vein, a dilated internal jugular vein, which is normally absent in horses, was found. The external jugular vein had a normal branching pattern, but the maxillary vein had a broad connection with the dilated internal jugular vein. Drainage pattern of the left side was completely normal.



CT reconstruction of the dilated internal jugular vein and it's connections
A: lateral view; B: axial view from the mid sagittal plane; (1) dilated internal jugular vein; (2) external jugular vein; (3) maxillary vein; (4) linguofacial vein; (5) communication between dilated internal jugular vein and maxillary vein; (6) deep cervical vein; (7) common carotid artery.

Necropsy findings

Surgical intervention was considered but because of financial reasons and questionable success rate in view of a possible sport career, the owner opted for euthanasia.
Necropsy revealed a huge right internal jugular vein, a vessel situated in the carotid sheath, which is normally absent in horses. The right external jugular vein was present but underdeveloped and located superficially to the omohyoideus muscle and the underlying internal jugular vein. Caudally, both the internal and external jugular vein united with the subclavian vein to form a dilated cranial vena cava. Cranially, the internal jugular vein had a broad connection with the maxillary vein, which was also dilated. The deep vessels of the neck (right vertebral vein and right deep cervical vein) were dilated as well and several connection between those veins and the internal jugular vein were present in the cranial cervical region.



Schematic overview of necropsy findings:
(1) dilated right internal jugular vein; (2) external jugular vein; (3) maxillary vein; (4) linguofacial vein; (5) communication between dilated internal jugular vein and maxillary vein; (6) deep cervical vein; (8) communication between dilated internal jugular vein and deep cervical vein; (9) vertebral vein; (10) subclavian vein; (11) cranial vena cava.

Conclusion

This report describes a case of right internal jugular vein phlebectasia (IJVP) in a young stallion. This disorder, extremely rare in horses, is well known in human medicine and defined as a congenital disease which mostly involves the right side in male children. The present case illustrates that IJVP should be included in the differential diagnosis of unilateral venous swellings in the jugular groove of horses, especially when the right side is affected in male foals. In addition to clinical examination and ultrasonography, CECT can be helpful to diagnose IJVP in the horse.

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