

## **Sinus cavernosus (or cavernous sinus) thrombosis following dental extraction in a 5-year old horse: a case report**

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A 5-year-old warmblood-gelding was referred with clinical signs of mild swelling of the left upper eyelid and the left retrobulbar fossa developed 5 weeks ago. A tooth extraction of Triadan 207 was performed a week prior to referral and the horse developed fever (40°C). Signs of incoordination were noted by the owners.

Clinical examination revealed painful swelling of the left upper eyelid, retrobulbar fossa. The horse was alert and showed a left sided ptosis. Tooth examination showed a food-filled alveolus of 207. After removal of the food, a severe alveolitis with necrotic zones in the alveolar bone was identified. Blood examination revealed a high SAA concentration ( $> 3000 \mu\text{g/mL}$ ).

Pre-contrast and post-contrast computed tomography (CT; 320 slice, Aquillon One; Cannon) of the head was performed and showed an alveolitis of the removed element 207. The post-contrast CT images showed a (septic?) thrombophlebitis of the left v. profunda faciei, v. sphenopalatine, v. emissaria fissurae orbitalis and the sinus cavernosus with pituitary abscessation and empyema at the floor of the cranial vault.

Cerebrospinal fluid aspiration was performed after the CT-exam and revealed cloudy yellow fluid with increased total protein concentration (5 g/L), increased cell count ( $6.41 \times 10^9/\text{L}$  95% neutrophils) and increased lactate (7.5 mmol/L). Glucose?

The horse was treated for 1 week with broad-spectrum antibiotics (tetracyclines and metronidazole). Afterwards, the horse received 1 month of oral doxycycline.

After 1 month, the horse showed no swelling of the left eyelid and a normal gait (the clinical symptoms normalized). A control CT was performed and showed healing of the infectious alveolitis of the removed Triadan 207. There was an improvement of the thrombophlebitis, of the left v. profunda faciei and v. sphenopalatine and similar thrombosis of the v. emissaria fissurae orbitalis and sinus cavernosus. Regression of the pituitary abscessation and empyema at the floor of the cranial vault was noted. However, hypodense regions in the left hemisphere lateral to the lateral ventricle were identified.

Cerebrospinal fluid aspiration revealed normal fluid with normal total protein concentration, normal cell count and decreased lactate (1.71 mmol/L). The horse was further treated with oral doxycycline.

In conclusion, this case report describes a septic sinus cavernosus thrombosis as a complication of an odontogenic infection after tooth extraction in the horse. This condition is also reported in humans as an uncommon condition with a high morbidity and significant mortality rate.