Secondary sinusitis in a 7-year-old Part-Barb mare

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Abstract
This case reveals a scenario where 2 equal length deep incisions, of about 7cm, made on either side of the face caudal to the eye, led to a complicated infection of the paranasal sinuses. Though radiographic, sinuscopic and endoscopic examinations were not performed to further define the sinus disorder, the age of the animal, the nature of the clinical signs, and response to therapy, laboratory result and history were used to arrive at a diagnosis. This method of incision is an ancient ethno-
sinusitis the nasal discharge may be fetid and sinus tracts can extend onto the skin. (Freeman, 2003)

This report presents a unique case where two incisions made at the frontal-maxillary area of the face as an ethnoveterinary remedy for osteodystrophia fibrosa, predisposes the horse to a classical secondary sinusitis.

**Materials and Methods**

**Case History and Clinical Examination**

Two weeks after a crude incision was made on the facial crest region of a 7-year old Part-Barb horse, abcessation developed on both sides of the face (Plate 1). On clinical examination, the following presenting signs were observed: distortion of the facial contour, dull percussion of the sinuses indicating the presence of fluid in the maxillary and frontal sinuses, stertorous breathing during exercise; rupture of the submandibular lymph nodes (Plate 3); pyrexia; yellowish bilateral mucopurulent nasal discharge and bilateral epiphora.

**Laboratory Examination**

Hematological examination was carried out on blood sample in the clinical pathology laboratory. Also culture of the nasal discharge and sensitivity test were carried out in the microbiology laboratory.

**Case Management**

Therapy was reviewed after 5 days of poor response to procaine penicillin (20,000 IU/kg) administration, by replacing it with trimethoprim and sulfadiazine combination (VetcotrimeR) at 2.5mg/kg (trimethoprim) plus 12.5mg/kg (sulphadiazine) twice daily per os (Bertone et al., 1988; Gustafsson et al., 1999, Prescot, 2000) for 5 days. The potentiated sulphonamide was administered 24 hours after withdrawing the procaine penicillin. The abscess was incised further and lavaged with normal saline twice daily for 7 days using a 60ml syringe.

**Results**

There was marked improvement 7 days after lavaging the abcessation twice daily with a decrease in discharges from the eye and nostril (Plate 2). A swab of the discharge from the pus was taken to the microbiology laboratory for bacterial culture and identification. The microbiology laboratory result was B – hemolytic streptococcus and staphylococcus aureus organisms. The swelling especially on the left side showed no marked reduction unlike the one on the right facial area which was reduced drastically. Initial body temperature of 40.1°C subsided to 39.5°C by day 7, fluctuating between 39.5°C and 40°C for two days. Then finally the temperature subsided to 38.20°C at the tenth day.

Hematological examination revealed a PCV of 29%, eosinophil 0%, basophil 0%, band neutrophils 0%,
segmented neutrophils 48%, Lymphocytes 51% and Monocytes 1%.

Plate 1: Part-barb mare showing swelling of the facial area

Plate 2: Part-barb mare with discharge from the eye and nostril

Plate 3: Part-barb mare with rupture of the submandibular lymph node

Discussion
Secondary sinusitis may follow a traumatic head injury (Reed et al., 2004). In this case the condition was as a result of a crude surgical trauma on both sides of the facial area which led to an inflammatory reaction of the skin, subcutaneous and the facial bones, consequently affecting facial symmetry (Plate 1). The dull sound picked on percussion of the frontal sinuses and the distorted facial contour could be a clear sign of frontal sinus infection.

Diagnosis of sinusitis is usually based on the history, age of the animal, and the nature of clinical signs (Ainsworth and Hackett, 2004). Considering this, the clinical signs were used to rule out other forms of sinusitis, for example, the sinusitis following dental disease or invasive neoplastic masses is characterized by a purulent foul-smelling and persistent nasal discharge, whereas a serosanguineous exudate is more typical of sinus cyst, slow growing neoplasia and certain stages of mycotic granuloma and hematoma (Reed et al., 2004). In this case the nasal discharge was mucopurulent, non-persistent and there was a clear response to the antimicrobial therapy. Furthermore sinuscopic and endoscopic examinations were not performed to define the sinus disorder. The absence of abnormal respiratory noise during exercise clearly signifies clinically that there was no impingement of the medial walls of the conchae into the nasal passage, displacement of the nasal septum or an extension of the sinus masses into the nasal passage and pharynx. Also the absence of blood-stained nasal discharge (Plate 2) was substantial clinical evidence that helped in ruling out ethmoid hematoma; tumor and fungal infection (Robinson, 2003). The epiphora seen could be an indication of compression of the osseous nasolacrimal duct.

A day was skipped between the administration of procaine penicillin and the potentiated sulphonamide in order to avoid interference since penicillin G is a para-aminobenzoic acid (PABA) analog and may reduce efficacy if used concurrently with potentiated sulphonamides (Sigel et al., 1981).

The microbiology laboratory result shows Streptococcus and Staphylococcus organisms, though Staphylococcus is reported to be rarely seen in cases of sinusitis (Ainsworth and Hackett, 2004), while the hematological result reveals a slight decrease in packed cell volume which is seen mostly in chronic infections (Robinson, 2003).

This case presents a challenge to equine practitioners, first it is presented clinically different from the conventional secondary sinusitis especially the etiology and secondly, this is the first report of such ethnoveterinary practice predisposing to secondary sinusitis among the equestrian community in Kano.

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References