Case Report

Endoscopic diagnosis and management of an unusual nasal foreign body in a mare

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1. Introduction

Occurrences of intra-nasal foreign bodies are uncommon in horses. Contrast to other body locations, foreign bodies in the nasal cavity can go unrecognized for significant periods of time [1]. Airway obstruction has been shown to be the common cause of poor performance and respiratory effort in horses [2]. The varieties of foreign bodies include; grass seeds, twigs, pieces of wood and thorns passages [3]. The equine upper airway is a high resistance, low-capacity ventilator passage; while airway foreign body (FB) causes increased respiratory effort, poor performance, unilateral obstruction, reduced airflow and variety of nasal discharges (clear, yellow/white pus, bloody, etc.) [4,5]. Some foreign bodies are visible on raising the alar margins but others are identified only during endoscopic examination. Radiographic examination may be used in the diagnosis of radio-opaque or metallic foreign bodies [3]. The diagnosis of such foreign bodies and their extraction can sometimes be difficult with risk of complications. The present case report describes the endoscopic diagnosis and management of unusual lodgement of a tooth fragment inside the nasal cavity in a mare.

2. Case presentation

2.1. Case history

A 4-year-old Arabian-cross mare weighing 335 kg, was presented to the Veterinary Teaching Hospital, College of Veterinary Medicine, King Faisal University, Saudi Arabia with a 2-months history of left unilateral purulent nasal discharge. The condition was concurrent with epistaxis and exercise intolerance.

2.2. Clinical and laboratory findings

On presentation, the mare had normal body condition, normothermia, slight tachycardia (44 beats per min) and slightly tachypnea (18 breaths/min). Further examination revealed nasal discomfort with intense sneezing and left sided mixed bloody-mucopurulent nasal discharge (Fig. 1a). There was no dental problem or foul smell during oral examination. These signs suggested an abnormality restricted to the nasal cavity, for which radiography of the region and upper airway endoscopy were indicated for further diagnosis. A complete blood count was unremarkable, showing a white blood cell count of $8.3 \times 10^3$/mm$^3$ (68% neutrophils).

2.3. Radiographic findings

Lateral radiographs unveiled a radio-opaque mass in the space between third and fourth left upper premolars (P3-P4). As shown...
in Fig. 1b, radiographs were repeated after endoscopy to show removal of the FB by alligator forceps.

2.4. Endoscopic findings

Endoscopy of the nasal cavity was performed in standing position, using a flexible endoscope with 8 mm diameter and 110 cm length (VetVu, a unit of Swiss Precision Products, USA), after the mare was sedated with xylazine HCl (Rompun® 2%, Bayer, Germany) at a dose of 1.0 mg/kg, given IV. A foreign body was identified in the left nasal cavity directly in the ventral valve and lateral to nasal septum (Fig. 2a). It was locating approximately 18 cm from the nasal opening and embedded inside purulent bloody discharge.

2.5. Treatment

The foreign body was removed using 20 cm long grasped alligator forceps (Eickeymeyer, Germany) under endoscopic guidance. The extracted foreign body measured 12 × 28 mm and had the
resemblance of a fragment of temporary tooth (Fig. 2b). The nasal cavity and site of impaction were cleaned properly using 0.9% normal saline solution (Fig. 3). Following foreign body removal, the mare received a five-day course of penicillin and streptomycin (Pen Strep®; Norbrook Laboratories, UK) once daily at a dose of 20,000 IU/kg b.wt of penicillin and 12.5 mg/kg b.wt of streptomycin given IM. Moreover, the mare received 3000 IU of anti tetanus serum given SC.

2.6. Follow up of the case

Post-operative follow-up information via telephone contact after three months with the owner revealed an improvement in the exercise tolerance, lack of any respiratory embarrassment and lack of nasal discharge.

3. Discussion

The most common locations of the foreign bodies in airways are in the oropharynx or laryngopharynx, trachea, bronchi and rarely in the floor of the nasal passage [6,7]. Complications of foreign body include epistaxis and trauma to the tissues due to thorns or other sharp protrusions [6]. Clinical signs, radiography and endoscopy could identify the type and size of the foreign body and its location [6]. Removal of the intra-nasal FB can be easily performed under endoscopic guidance by alligator forceps [6,8]. The appearance of the foreign body and mare’s age (4 years) would suggest that the intra-nasal foreign body is a retained cap of a deciduous cheek tooth, which falls out around the age of 2–4 years [9]. The difference in radio-opacity of the foreign body from the normal teeth could be due to decalcification of the FB or the presence of additional soft tissues around the foreign body. To the present date, there are no reported cases with photographic documentation showing the use of alligator forceps under guidance of the flexible endoscope to remove a nasal foreign body in horses.

4. Conclusions

This case report describes -for the first time- a tooth fragment as a foreign body in the nasal cavity in horses. It also demonstrates the possibility of successful removal of a foreign body from nasal cavity in horses using alligator forceps under endoscopic guidance.

Acknowledgement

Thanks, are due to M.F Al-Salman for his valuable help, Prof. R.O. Ramadan and Dr. R. Abdin-Bey for reading the report.

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