How to decide when to transfer a horse with colic

Dr Camilla Quattrini outlines the fundamental steps that can guide the veterinarian in the decision-making process when referring a horse with colic

Colic is the most common emergency in equine practise and approximately 7%-10 % of colic horses evaluated by private practitioners have a lesion that requires surgical correction; this may be obvious with acute strangulating obstructions, but most cases are not so straightforward. Early identification of horses that require referral because of the presence of surgical lesions or the need for advance intensive medical care is critical to obtain a successful outcome.

The veterinary practitioner should assess the horse, analyse the finding and offer clear treatment options to the owner or trainer as soon as possible. It is essential that the veterinarian is aware that the owner is willing to send the horse to a referral facility if needed right from the start so that if referral appears to be the best action, there will not be delays in transport that could negatively affect prognosis. A clear discussion should take place with the owner on true and perceived risks and costs of referral. If referral is not an option, it is fundamental that appropriate medical treatment is administered early in the course of the disease and that a tentative diagnosis is given in the light of lack of resources and/or surgical facilities not being possible.

1. COLLECTING HISTORY AND SIGNALMENT

This can provide key information towards identifying the specific cause of colic. A standardised colic history form will help not to omit any important information. A colic horse is an emergency patient and, when possible, history and signalment (age, breed, primary use of the horse, breeding status) should be collected prior to arrival at the farm. Duration, nature, severity of colic signs and response to medications are vital information that can guide the veterinary practitioner in the decision-making process.

2. PHYSICAL EXAMINATION

When combined with signalment and history, a physical examination will often provide the information needed to decide whether referral is necessary. Key points are as outlined below.

General appearance – demeanour

Pain assessment: mild (intermittent pawing, flank watching, stretching, lack of interest in food, might be recurrent); moderate (vigorous pawing, lying down and intermittent rolling); and severe (violent attempt to go down and thrash; might be followed by signs of shock).

Degree of abdominal distention and stance.

Cardiovascular status – respiratory rate and effort

Heart rate: If the horse is in severe pain, obtaining the heart rate is essential because it has been shown to be the best single prognostic indicator.

Perfusion and hydration indices: gum colour; capillary refilling time; peripheral pulse quality; skin tent; position of the eye in the orbit (foals).

Respiration: increased respiratory rate, nostril flare, abnormal respiratory pattern (increased abdominal component).

Temperature
To be obtained before performing a rectal palpation. It is usually normal or subnormal in surgical cases. Fever suggests possible inflammatory or infectious condition.

Auscultation of gastrointestinal motility
Increased (spasmodic colic, DPJ, colitis); normal; decreased; absent (more commonly associated with mechanical obstruction or conditions resulting in systemic inflammatory response syndrome).

Nasogastric intubation for detection of gastric reflux
Fundamental therapeutic and diagnostic step. Once the tube is passed down into the stomach, it is primed with water followed by attempts at obtaining stomach contents. The nature of the gastric content can provide important info:

- 3L of net reflux – functional or anatomic obstruction of gastrointestinal tract;
- Ph >5 is suggestive of small intestinal origin; and
- Orange-red colour, foul odour – proximal enteritis, DPJ (even large volume) or ileus. Usually the horse presents with fever and/or depression otherwise this condition might be difficult to differentiate from small intestinal obstruction without the use of adjunctive diagnostics tests.

Rectal palpation
After the cardiovascular status and gastrointestinal motility has been obtained, the horse can be sedated with xylazine hydrochloride (0.2-0.5 mg/kg IV), a short acting (40 min) alfa-2 agonist, with or without the adjunct of butorphanol (opioid 0.01-0.02 mg/kg IV); anti-spasmodic agents such as hyoscine N-butylbromide (0.1-0.15 mg/kg IV) can be used to reduce the risk of rectal tears. Be aware that hyoscine N-butylbromide will increase heart rate for up to an hour. The aim of this procedure is the systematic identification of normal visceral anatomy and the evaluation of any distension or displacement palpable, with the location and type (gas, fluid, impaction). Serial examinations are helpful in colicky horses with minimal abnormalities on first palpation when the need for referral remains unclear.

NEED FOR REFERRAL

A thorough evaluation of the horse with colic is critical during the first visit to identify the cases that would benefit from referral. Physical examination, passage of nasogastric tube and rectal examination (if safe) are the foundation of this evaluation. Physical examination findings that indicate need for referral include one or more of the following:

- Abdominal discomfort/pain requiring repeated analgesic administration with poor or absent response;
- Depressed appearance, reluctance to walk;
- Gross and progressive abdominal distention;
- Signs of hypovolaemia and/or endotoxemia (delayed jugular refill, CRT >2 sec, thread peripheral pulse quality, HR >60, tachypnea, toxic mucous membranes);
- Absence of audible intestinal motility;
- Abnormal rectal palpation findings (wall oedema, distention of small intestine, distended and displace large colon, thigh bands, distention or impaction of any viscus that cannot be resolved with medical therapy, palpable foreign body);
- Gastric reflux volume exceeding 2-3L; and
- Lack of response to treatments at the farm

More advanced diagnostic tests, including transabdominal ultrasound, abdominocentesis, and point of care measurement of lactate and glucose in blood and peritoneal fluid, can aid in determining if referral should be offered. Specifically, the 'seven windows' protocol for fast localised abdominal sonography of horses (FLASH technique) has been shown to be highly sensitive and specific for small intestinal obstruction.

If doubt still exists and referring the horse is an option, this decision will allow further diagnostics to be performed along with around the clock monitoring to determine if advanced medical or surgical intervention is required. Once the decision is made, it is important to stabilise the horse before loading it into the trailer and call the referral hospital prior to the horse's departure to discuss referral cost and medical therapy. If the patient is severely dehydrated, a bolus of fluids (at least 10-20L) should be given through an IV catheter. If gastric reflux was obtained, then a nasogastric tube should be taped in place; this can prevent a ruptured stomach. For a recurrently painful horse, analgesic can be provided for the duration of the trip (detomidine 10 microg/kg IV plus butorphanol 0.01-0.02 mg/kg IV).

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