Equine*Review*

Introduction: This month's Equine Review explores papers on bilateral laparoscopic ovariectomy in mares, the effect of omeprazole on phenylbutazone-induced equine gastric ulcer syndrome and ultrasound-guided perineural injection of cervical nerve in horses.

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Russell Parker BVSC MSc DECVS MRCVS, RCVS and European Specialist in Equine Surgery, Liphook Equine Hospital, Liphook, GU30 7JG.
russell.parker@theleh.co.uk

Bilateral laparoscopic ovariectomy in mares

The development of minimally invasive laparoscopic techniques has significantly reduced the rate of complications associated with ovariectomy in equids, allowing this procedure to be increasingly performed for the treatment of oestrus-related behavioural issues.

However, data are limited and there are conflicting opinions regarding the effects of bilateral ovariectomy on behaviour. A recent retrospective study by Collar et al (2021) investigated this in 51 mares. All mares undergoing bilateral ovariectomy over a 6-year period were included in the study and split into two groups: elective cases (n=41), where both ovaries were non-pathological, and non-elective cases (n=10), where hormone analysis and histopathology confirmed the presence of ovarian pathology (granulosa cell tumour 9/10 or arrhenoblastoma 1/10). As anticipated, rates of postoperative complications were low (8%) and were positively associated with the need for a hand-assisted ovariectomy technique. Of the 41 elective cases 90% (n=37) showed some improvement in the presenting behaviour, with 71% (n=29) showing complete resolution. Response to altrenogest (Regumate) was not an accurate predictor of the response to surgery. Oestrus-like behaviour was reported in 27% of cases after surgery, the reason for which remains unclear, but these signs were mild and generally manageable. Of the ten non-elective cases, all showed some improvement after surgery – with 90% showing complete resolution of undesirable behaviour. Limitations of the study included its retrospective nature, the owner-based follow up, the lack of a control group and the limited postoperative investigation of in the elective group.

The authors concluded that bilateral ovariectomy is a viable treatment option for owners seeking to alleviate undesirable oestrus-related behaviours in mares, regardless of the response to pre-operative oestrus modification therapy.

Effect of omeprazole on phenylbutazone-induced equine gastric ulcer syndrome

Phenylbutazone is commonly used for the management of pain and inflammation in horses but is known to have adverse effects on the gastrointestinal tract, such as ulceration of the gastric mucosa and right dorsal colon. Adminstration of omeprazole concurrently with phenylbutazone to prevent the development of gastric ulceration has been reported anecdotally, but the effects of this have not been studied. In a randomised prospective study, Ricord et al (2021) assigned healthy horses, with a pre-study ulcer score of ≤2, to three groups over the 14 day study period. Group 1 was treated with phenylbutazone (4.4 mg/kg per os, twice daily), group 2 with phenylbutazone (same dose) and omeprazole (4 mg/kg per os once daily) and group 3 received no treatment as a control.

Gastroscopy was performed weekly to document both equine glandular gastric disease and equine squamous gastric disease. Over the study period, phenylbutazone increased the equine glandular gastric disease score but treatment with phenylbutazone and omeprazole did not. Equine squamous gastric disease score did not increase in either group. Interestingly, group 2 had an increased incidence of adverse gastrointestinal events (including colic, diarrhoea and impactions), compared with the other two groups, suggesting the two drugs in combination may induce clinically significant dysbiosis.

The authors concluded that omeprazole may reduce phenylbutazone-induced equine glandular gastric disease development, but cautioned against concurrent use of both drugs because of the concerns surrounding the development of adverse gastrointestinal effects.

Ultrasound-guided perineural injection of cervical nerve roots in horses

Compression of the ventral rami of the cervical spinal nerves is suspected to occur in horses, secondary to ventral enlargement of the articular process joints, which may result in cervical pain and/or forelimb lameness.

Direct perineural injection is performed under ultrasound guidance in human patients for the treatment of radiculopathy and a recent prospective cadaver study by Wood et al (2021) described this technique in horses. A curvilinear probe was positioned in a ventrodorsal orientation and used to guide a spinal needle to the ventral margin of the C4/5 and C5/6 articular process joints, following which 1 ml of latex was injected and the necks were dissected.

In total, 73% of injections were found to achieve direct perineural contact, while 88% were within 0.5 cm of the nerve. Latex was injected a mean distance of 2.4 cm from the spinal cord (range 0.8–4 cm) and 0.9 cm from the vertebral artery (range 0–1.5 cm). Intra-arterial injection occurred in 1/40 injections.

The authors concluded that ultrasound-guided perineural injection of the cervical nerve roots was accurate and repeatable and may have applications for the treatment of clinical cases of equine radiculopathy. EQ

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