DEALING WITH PROBLEMS IN THE PERIPARTURIENT MARE

AN IMPORTANT SESSION at the 2016 congress of the British Equine Veterinary Association was devoted to “The periparturient mare”. Moderated by James Crowhurst of the Newmarket Equine Hospital, first speaker was Barbara Dallap Schaer of the University of Pennsylvania School of Veterinary Medicine who described an approach to abdominal pain in the post-partum mare.

It was important, she said, to remember the foal and to consider the mare both from the immediate clinical situation and from her future reproductive potential. The post-partum mare showing abdominal pain could be presenting with either severe pain or mild pain due to uterine contractions or retained foetal membranes.

Origin of pain
Where does the pain originate? It may be coming from the uterus (be particularly vigilant for uterine haemorrhage), or the intestinal tract (common problems are large colon volvulus, devitalised small colon, rectal tears caused during foaling) or the urinary tract. Each of these tracts needs thorough investigation.

This needs to be preceded by history-taking. The mare’s reproductive history is important: you need to know the length of this gestation, how the foaling went and whether she has had any previous colic episodes. How has she responded to medication? Clinical examination starts with looking at the animal from a distance, noting the abdominal profile, her behaviour and the degree of discomfort. Then make a thorough examination, assessing the inflammatory response (look for scleral injection and mucous membrane colour) and doing a complete colic work-up.

Perform a rectal examination, paying attention to the reproductive tract as well as the gastrointestinal tract. Use rectal and trans-abdominal ultrasonography to confirm haemorrhage, peritonitis and organ displacement. Abdominocentesis should also be performed: small increases in parameters may follow foaling stress but if more than one parameter is significantly raised (total protein >3.0 g/dl, total nucleated cell count >15,000 cells per microlitre, or percentage of neutrophils >80%), this is clinically significant.

Increased lactate can be an early warning of haemorrhage, preceding the fall in packed cell volume or total solids. Leukopaenia or leucocytosis, hyperbilirubinenaemia or increased serum amyloid A may indicate an inflammatory process in either the gastrointestinal or the reproductive tract.

Timely diagnosis and intervention are essential. The examination needs to be consistent and thorough, using all available diagnostics and the clinician’s knowledge of the conditions that are likely to be the source of the distress.

The decision to refer needs to relate to the degree of discomfort and clinical deterioration: 40% of deaths in periparturient mares are due to ovarian or uterine haemorrhage.

Retained membranes
Huw Griffiths of the Liphook Equine Hospital gave an “Update on retained foetal membranes”. The equine placenta is made up of the chorioallantos, the amnion and the placental vasculature. The placental attachment is diffuse, microcotyledonary and epitheliochorionic.

When the foetal placental blood vessels collapse, the chorionic villi lose their blood supply and shrink. At the same time the maternal crypts relax. Thus, the placental attachment disintegrates and the foetal membranes are free to respond to the uterine contractions and so be expelled. This should happen within three hours of the foal’s birth.

Retained foetal membranes (RFM) is rare in ponies and Arabs but common in draught mares, with a 54% incidence in Friesian mares. Overall, mares that foal normally have a 2 to 10% incidence of RFM. The outcome of RFM can be death following laminitis, menitis, myocardiits or endotoxaemia so early, active treatment is essential.

Failure of detachment often happens in the tips of the uterine horns, with the non-gravid horn having the higher incidence. Efficient detachment needs active uterine contractions and release at the microvilli. An abnormal or diseased placenta can result in adhesions which will lead to RFM.

The normal uterine contraction should progress from the apices of the uterine horns to the cervix so that the allantochorion inverts on itself. Caesarean section extends the second stage of labour and increases the likelihood of RFM. During the operation the placenta should be treated gently, only being removed if it comes away easily. Too much force can lead to uterine haemorrhage or prolapse.

The placenta can be peeled back so that it is not included in the repair of the uterine incision. In one study, the incidence of RFM was 28% following embryotomy, 30% following caesarean with a dead foal and 70% following caesarean with a live foal.

Oxytocin is used to improve uterine contraction, starting two to three hours after foaling: 10 to 20 IU can be given every two hours. This interval is chosen as although the half-life of oxytocin is about six minutes, the mare’s receptors take two hours to replenish.

Oxytocin mobilises calcium but if testing shows that the mare is low in serum calcium, 40 IU of oxytocin can be given in 450ml Ca-Mg borogluconate. This treatment worked in 64% of mares. Only 44% of the mares responded when the oxytocin was given in saline.

Gentle, careful uterine lavage, repeated many times if necessary, is valuable to remove any debris that may have left by other methods. RFM appears not to influence future breeding outcomes.

Uterine tears
Barbara Dallap Schaer came back to discuss “Diagnosis and treatment of uterine tears”, explaining that the mare with a uterine tear may show illness right after foaling or not for 24 to 48 hours post-partum.

Signs can be insidious: there may be fever, mild colic or anorexia or there may be signs of endotoxaemia. These signs may be caused by other conditions such as a vaginal tear that stretches into the peritoneal cavity, or damage to rectum or small colon mesentery, or vascular compromise to the terminal small colon or rectum.

Dystocia may cause a tear in the dorsal body of the uterus while a normal foaling can be followed by a tear to the tip of the pregnant horn. In the mare with suppurative peritonitis exploratory celiotomy may be needed to find and repair the tear and to determine the source of the trouble which may be coming from the gastrointestinal tract.

Medical treatment needs to be aggressive: intravenous antibiotics, supportive therapy, anti-endotoxaemia treatment and drain placement and abdominal lavage. Levage may be continuous or repeated daily and culture of the fluid can guide antibiotic therapy.

Prognosis is variable, influenced by the size and location of the tear and the impact of the subsequent peritonitis.

An update on animal life-saving skills
A LEADING authority on acute medicine for small animals, Dr Bill Saxon, flew in from America recently to give a lecture on resuscitation procedures to 52 veterinary surgeons and nurses from the Willows Veterinary Group at its Ashbrook Equine Centre in Allostock, near Knutsford. In his talk, sponsored by IDEXX, he reviewed the current recommendations for performing cardiac pulmonary resuscitation on cats and dogs and spoke about new guidelines on how to do it.

“Basically, the procedure is performed on cats and dogs in precisely the same way as it is on humans with only a few slight modifications,” he said.

“You have to make sure they have a way to breathe, which might mean passing in a tube to help them do this. The actual resuscitation is done using the palm of the hand and fingers to gently compress the chest.”

He then explained how to take care of a dog hit by a car.