ABDOMINOCENTESIS IN THE HORSE

**Technique**

Peritoneal fluid can be easily collected in most horses using a 2 inch, 19 gauge needle through the lowest point of the linea alba or possibly just to the right of midline. Some prefer to use a blunt-ended teat canula and a small stab incision to perform this procedure. Common reasons for failure to collect a peritoneal tap include dehydration (whereupon successful taps are usually obtained following rehydration and fluid therapy), splenic tap (ultrasonography will identify the position of the spleen and allow repositioning of the peritoneal tap site) and deep retroperitoneal fat layers (which can be up to 10 cm thick and occasionally require a spinal needle to obtain a tap and this can again be predicted on the basis of abdominal ultrasonography). This author routinely employs ultrasound examination prior to peritoneal tap to maximise the chances of a successful procedure.

**Interpretation**

Peritoneal fluid analysis from normal horses generally results in a total nucleated cell count of between 1-2 x 10^9/L with approximately two-thirds of the cells being PMNs. The total protein concentration of the peritoneal fluid is usually less than 12 g/L. Peritoneal fluid glucose concentration is normally slightly greater than blood glucose usually in the range of 4-7 mmol/L.

Septic peritonitis, a fairly common problem in equine practice, is easily diagnosed by peritoneal fluid analysis and usually shows cell counts greater than 50 x 10^9/L, total protein concentration greater than 50 g/L and a very low glucose concentration (less than 2 mmol/L). Borderline total nucleated cell counts around 5-10 x 10^9/L represent a modified transudate and are more difficult to interpret but clearly do infer intra-abdominal disease. Intra-abdominal neoplasia in horses is rarely specifically identifiable by a peritoneal tap and exfoliated neoplastic cells. However, mild to moderate increases in total nucleated cell counts and protein concentrations are often found but this is easily confused with low-grade septic peritonitis. A similar pattern is often the case in equine grass sickness. Relevantly, but fairly non-specifically, it is common to find horses with inflammatory bowel disease and other causes of hypoalbuminaemia that produce profuse quantities of peritoneal fluid that runs freely following the peritoneal tap procedure and tends to be quite dilute in terms of low cell counts and protein (a subclinical ascites).