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ACUTE ABDOMEN IN FOALS: THERE AGAIN WE NEED DIAGNOSTIC IMAGING!

Foals with Colic show mild or severe symptoms, that do not always correlate with bowel changes. For example, a foal with low-grade gastritis may show severe symptoms and another foal with a Volvulus jejuni may be merely depressed and stop taking milk. As a result, any foal with abdominal symptoms or with inappetence is an emergency and should be examined with extreme care. Often, analgesia and/or rehydration must be provided parallel to patient examination. The final decision on the treatment plan and eventual surgery results from the findings of the clinical examination, the follow-up diagnostic procedures and the patient's response to the initiated analgesia.

The foal's age, sex, and deworming management may make some differential diagnoses more likely to be included or excluded. For example, neonate colts are predisposed to develop meconium obstruction, and in foals 2-5 days of age, rupture of the bladder should be considered.

Examination of the foal with colic

A clinical examination begins with the observation of the patient from a few meters distance. There are signs as to roll on the back and stay there or tenesmus diagnostically very meaningful. The former is often seen in foals with gastric ulcers and tenesmus is observed in meconium obstruction or bladder rupture. The shape and circumference of the abdomen should also be assessed.

The vital parameters, though very important, do not always indicate the severity of the bowel changes. However, any change is noticeable: a hypothermia signals e.g. severe impairment of the circulation and in case of dyspnea, the thorax should be thoroughly examined.

The findings at auscultation of the abdomen are similar to those of the adult horse. Peristaltic or hyperperistaltic is associated with good prognosis, and reduced bowel sounds are more indicative of ileus and cautious prognosis. The color and dryness of the mucous membranes can to be interpreted as in the adult horse.

On the other hand, in foals dehydration occurs much earlier in colic than in adult horses. It is diagnosed on the basis of the skin turgor, the dryness of the mucous membranes and the temperature of the extremities. If a fluid deficit is detected, infusion should be initiated immediately.

If the abdomen is distented, palpation should be used to determine if it is fluctuating, e.g. in a uroperitoneum, or filled with distended intestines, e.g. in the meteorism of the colon or bulging as e.g. in a small intestine or colonic volvulus. Then a nasogastric tube should be placed in the stomach and the amount, odor and possible pH of the contents determined. Following the clinical examination, a digital palpation is performed to determine the presence and quality of the faeces. In most cases, hematology and blood chemistry parameters add significant information to clinical diagnostics.

However, if the findings are not clear at this time, a transabdominal ultrasound examination is recommended. For this, every available transducer is applicable and the foal does not have to be shaved in any case but the skin is soaked with alcohol. Thus, it is possible to assess the intestinal motility of different segments and, to detect dilated, wall-thickened or obstructed intestinal loops, or even free peritoneal fluid. Since sonography has become a routine procedure, x-ray examinations are less used. Some selected frequent sonographic findings are described now:

Meconium obstruction:

If in the course of treatment uncertainty arises as to whether "econium obstruction" is to be expected cranialy, the ultrasound examination can show meconium as hypoechoic round structures in the intestine directly cranial to the pelvic cavity.

Ileus, small intestine or colon volvulus:

During the ultrasound examination, amotile fluid-filled small intestine loops, a filled stomach and usually also colon structures, which also contain pulpy or liquid will be diagnosed. If free abdominal fluid is present, the type of ascites must be determined by abdominocentesis. Here both the ultrasound and the X-ray examination can be diagnostically very helpful, because in the case of Colon volvulus a meteorism is shown, which is clinically not always easy to diagnose.

FROM GESTATION TO A HEALTHY FOAL

Uroperitoneum:
In this case, a transcutaneous ultrasound examination of the abdominal cavity should be carried out after the general examination and the hematological parameters, including the electrolytes, should be determined. In uro-peritoneum hypoechogenic or anechogenic free peritoneal fluid and floating intestinal loops and the omentum can be observed as thread-like mobile structures. Often, the wall of the bladder can be seen and the fluid of the abdominal cavity often has a denser echogenicity than the bladder contents. If the uroperitoneum already exists for several days, broader hyperechoic strands form, which suggest a peritonitis will be seen. The defect of the urinary bladder wall is rarely recognizable and usually only to be localized intra-operatively.