

Case #5

An Equine Abortion with endometrial sloughs: helpful evidence.

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Clinical aspects: A 5yo TB mare carrying her first foal became pyrexia and had loss of bowel sounds. She improved after treatment but 3 days later had a dystocic abortion (head and forelegs back) at 9.5 months gestation. The placenta was delivered with the foal: the pregnant horn had to be removed manually.

Diagnostic samples submitted: Foetus; placenta; piece of necrotic tissue.

Foetus: The tissues were autolysing. The foetus was slightly undersized and had meconium around the perineum. The abdomen was slightly enlarged: the stomach was distended and the spleen enlarged. An excess of sanguinous serosal fluid was present in the thoracic cavity (only) and the lungs were abnormally firm.

Histology: Liver: intense congestion, dilated sinusoids, a few small focal mononuclear cell aggregates, mostly in portal areas. Lung: Areas show patchy mild inflammation. Airway fluid contains large numbers of bacterial cocci and a few inflammatory cells.

Placenta: Umbilical cord: This was still attached to the foetus and of normal length (48cm) and without significant twisting or haemorrhage.

Amnion: This was congested and slightly thickened.

Allanto-chorion: (All presented.) The villous surface showed the area at the base of the horns including the cord attachment site was very congested and slightly thickened. On the allantoic surfaces areas of pallor were present, mainly in the pregnant horn. There was thickening and opacity of the normally translucent surfaces.

Histology. A slight amnionitis, and haemorrhages. Allanto-chorion shows focal stromal and allantoic acute inflammatory change. Classic villitis is not a feature. Vascular changes (haemorrhage; ischaemia; thrombi.) .

Piece of necrotic tissue: On the villous surface at the base of the non-pregnant horn were several orange-brown rolled-up fragments of necrotic tissue. These were necrotic endometrial tissue sloughs. Histology shows they extend down as far as the deeper glands. Many areas have an intense neutrophilic infiltration.

Microbiology: Foetal liver: No bacterial growth

Foetal lung: A heavy growth of coagulase positive Staphylococcus.

Endometrial tissue: A mixed growth including a heavy growth of Staphylococcus, and scanty growths of E.coli, non-haemolytic Streptococcus, E.coli and Bacillus spp.

Cervical star of the chorion: Moderate growths of the same organisms

PCR analysis (liver, lung, spleen, thymus, chorion) negative for EHV1/ EHV4 DNA.

Conclusion: Utero-placental Staphylococcal infection at the base of the horns.

Comment: In a series of 200 cases of infective placentitis in mares 95% were ascending from the cervix (1). The non-cervical nature of the placentitis in this case is unusual. The mare's pyrexia suggests a blood borne infection may have localised in the pregnant uterus and possibly the mare's discomfort reflected focal septic endo-

metritis and even peritonitis. The origin of the Staphylococcal infection remains unknown. The case highlights the necessity of evaluating even decomposing shreds of tissue which may accompany an abortus. The dehisced shreds of necrotic endometrium in this case reflected a bacterial, possibly infarctive endometritis. In a subsequent abortion investigation a piece of sloughed endometrium proved positive for EHV-1 and lead to the recognition of an atypical form of viral abortion where there is a utero-placental infection and premature placental separation, the foetus not being infected.(2)

References:

1. Whitwell, K.E. (1989) Infective placentitis in the mare. Proc. 5th Int.Conv. equine infect. Dis., Univ. Press, Kentucky 172-180.
2. Smith,K.C., Whitwell,K.E., Blunden, A.S., Bestbier,M.E., Scase,T.J., Geraghty,R.J., Nugent,J., Davis-Poynter,N.J. and Cardwell,J.M. (2004). Equine herpesvirus 1 abortion: atypical cases with lesions largely or wholly restricted to the placenta. Equine vet. J. **36**, 79-82.

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PCR analysis of foetal tissues for EHV1 and EHV4 DNA proved negative.

Conclusion: Uteroplacental infection of the base of the horns. Possible events:

- Blood borne mare infection, pyrexia and discomfort
- Localised septic endometritis, ischaemia and sloughing
- Overlying placental infection and separation
- Infection of the amnion and early amnionitis
- Early foetal infection of the lung and stomach
- Foetal death and abortion.

Note: the origin of the Staphylococcal infection is not known.