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MECONIUM ASPIRATION SYNDROME AS INDICATOR OF VITALITY AND PERINATAL ILLNESS STATUS IN FOALS

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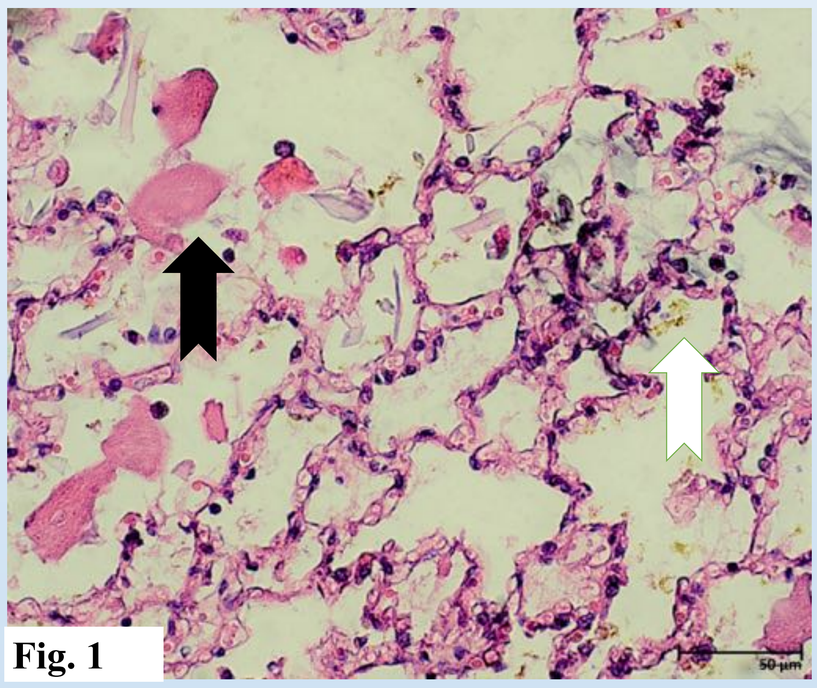

Fig. 1

Fig.1 Alveolar meconium aspirate (white arrow) and amniotic fluid aspirate (black arrow), H&E x 400

Introduction: The presence of meconium in the alveoli or bronchioles indicates intrauterine meconium discharge into the amniotic fluid due to foetal distress, and subsequent surfactant inactivation and inflammation. The present study correlated MAS with gross lesions and concurrent infections in foals.

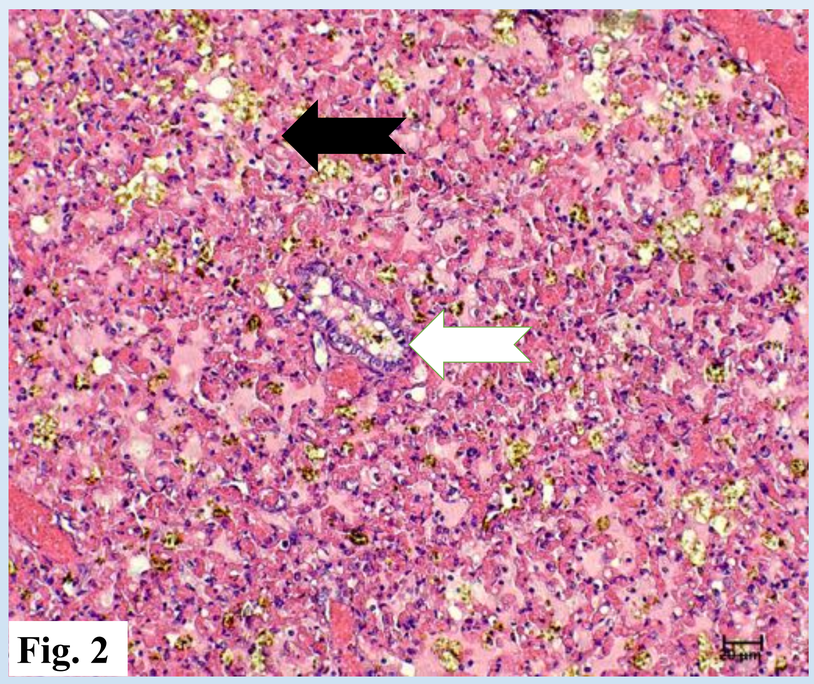

Fig. 2

Fig.2 Broncho-alveolar meconium aspirate (white arrow-bronchiolar aspirate/ black arrow alveolar aspirate) H&E x 200

Materials and Methods: The study included ten cases of perinatal death. Standard necropsy was performed, followed by routine histopathology and PCR investigation for *Taylorella equigenitalis*, Equine Arteritis Virus, Equine Herpesvirus 1, *Streptococcus equi* and *Leptospira spp.*

Results:

Gross examination: hemoperitoneum, subpleural haemorrhages, multiple organ congestion diffuse or focally extensive pulmonary atelectasis, oedema and emphysema (n=2), acute epicarditis and pneumonia (n=1).
Histologically: aspirated meconium within pulmonary alveoli (Fig.2. black arrow) and bronchioles (Fig 2.- white arrow). Additional amniotic fluid was present in the alveoli (n=1) (Fig.1) . Mononuclear interstitial pneumonia (n=1), non-suppurative encephalitis (n=3), pulmonary oedema and emphysema (n=2) were histologically diagnosed. Two cases had allantoic epithelial cell hyperplasia with oedema, inflammatory cell infiltration, neovascularization (Fig. 5), umbilical vasculitis (Fig.3) and discrete acute funisitis (Fig.4).
PCR testing identified *Streptococcus equi* (n=4) and *Leptospira spp*. (n=3).

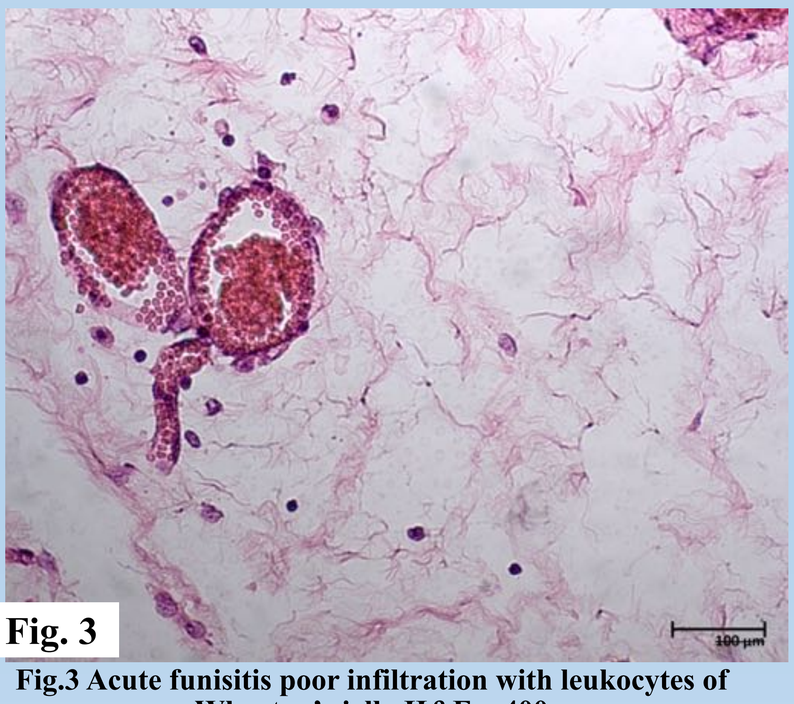

Fig. 3

Fig.3 Acute funisitis poor infiltration with leukocytes of Wharton's jelly H&E x 400

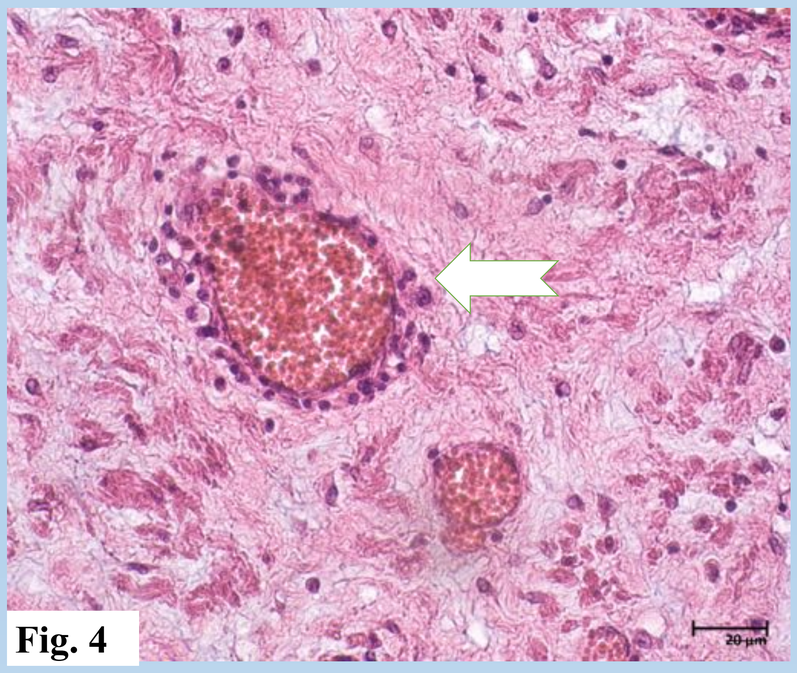

Fig. 4

Fig.4 Umbilical cord vasculitis-mononuclear cells H&E x 400

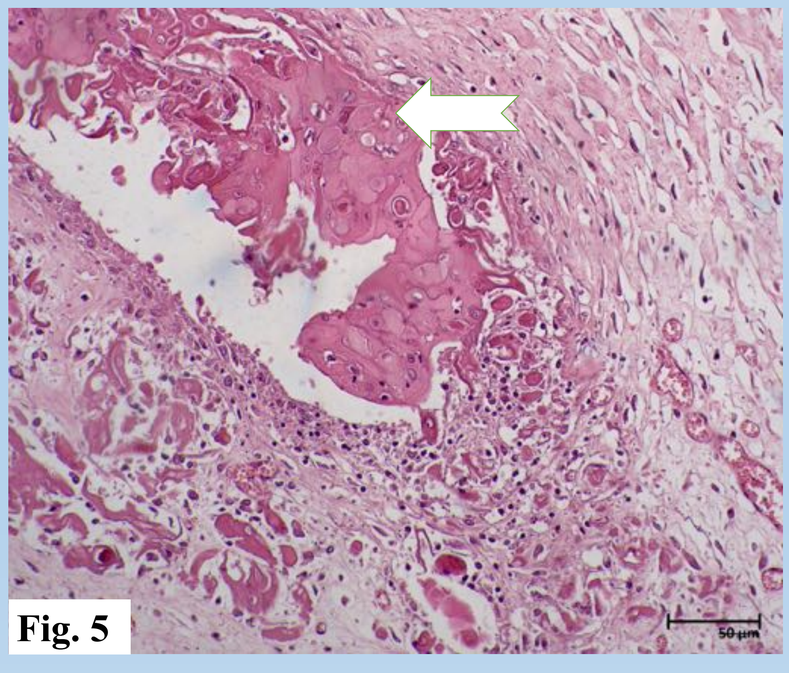

Fig. 5

Fig.5 Allantoic epithelial cell hyperplasia and polimorphonuclear cells infiltration H&E x 200

Conclusions: The present study showed that seven out of ten cases (70%) of foals with MAS had bacterial challenge during gestation. In conclusion, the presence of MAS associated or not with unspecific gross lesions of foal or placenta are highly suspicious of any aetiology that causes foetal distress.

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