

A foal being intensively treated for prematurity using a ventilator

Counter the **septicaemia** threat

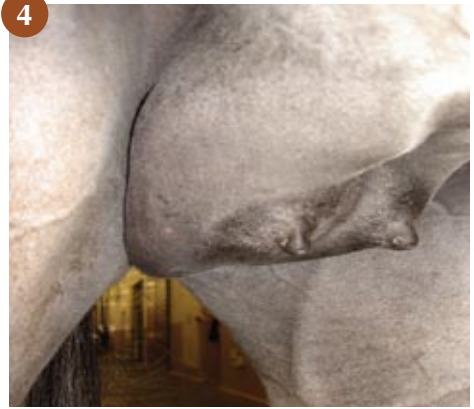
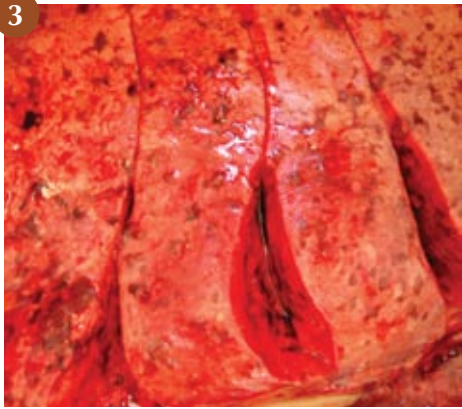
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You have spent the past couple of months eagerly awaiting the newborn and it seems to be taking forever! Your mare is progressively getting larger and you suspect that it may be soon before you are welcoming the new arrival.

You repeatedly recall all the preparations you have made for the impending birth, transferred the mare to a clean stall eight weeks before parturition, vaccinations done, free access to a paddock to help prevent further oedema, a laxative diet, fresh water at all times. Is there anything else that may be lurking? There is ... and it is called septicaemia.

Septicaemia or the presence of bacteria in the bloodstream, can develop within the first few hours of birth. Failure of passive transfer is commonly implicated as a contributing factor to the developing sepsis. It is essential to have an appropriate transfer of immunoglobulin (IgG) through drinking of the mare's colostrum within four hours after birth, as foals are born without a proper functioning immune system. This means that they are susceptible to bacteria that may ultimately lead to their death.

After this period, the quantity of IgG declines rapidly in the mare's colostrum and the newborn undergoes intestinal closure (normally complete by 12 hours post-birth)



- 1 Notice the milk pouring out of the right nostril after feeding
- 2 An autopsy photo of a septic foal with multiple abscesses in the kidney

- 3 An autopsy photo of a septic foal with multiple lung abscesses
- 4 An engorged udder – indicative of a lack of suckling

whereafter no further IgG can be absorbed through the intestine. Sometimes it is worth testing the foal's blood to see whether the IgG concentrations are within recommended levels and can easily be done using a SNAP test (IDEXX Laboratories).

Should this value be below the normal amount, your veterinarian may need to administer one litre of good quality plasma intravenously to your foal which will boost IgG and improve the degree of immunity.

Good colostrum is important

It may be a good idea to have a colostrum bank at your stud. It is safe to collect approximately 250 ml of colostrum from a normal healthy mare after her own foal has suckled first. This may then be frozen (the antibodies are not destroyed by freezing and can be stored for 24 months at -70°C without degradation of components).

Historically, bovine colostrum has been suggested as an alternative source. However,

this contains lower concentrations of IgG and the bovine antibodies may not be compatible with foals. Another more costly option is to collect and store one litre of plasma from donor horses at the stud, which is then stored frozen until needed to treat foals with failure of passive transfer.

All this talk about colostrum, but how can you judge if it is of superior quality? It should be thick, yellow and sticky. Also, other more definitive methods of assessing colostrum quality, include measuring the specific gravity with a refractometer (this is a handheld device that owners may easily use). Good quality colostrum should have a specific gravity reading of greater than 1,065. Remember that the quality of colostrum may be affected by parity and age (maiden mares as well as those over 15 years may have lower colostrum quality), health status, gestational age of the foal and breed.

Care for the umbilicus

Further strategies that should be employed to reduce the risk of septicæmia in a newborn, include umbilical care. The umbilicus should be dipped in 2% chlorhexidine solution as soon as the cord has ruptured (and then repeated every eight hours for three days), as a recently ruptured umbilical stump provides an excellent portal of entry for bacteria. The foal should be weighed (normal birthweight should be approximately 50 kg) and a veterinarian should examine all newborns.

The administration of prophylactic antibiotics to all newborns, regardless of health status is questionable. However, this is routinely employed in some countries. Antibiotic resistance through the indiscriminate use of pharmaceuticals is a growing concern and owners should be aware of this. Determination of IgG status will allow for timely intervention, should there be evidence of poor immunity. This may then be repeated in 72 hours to assess how successful passive transfer of IgG was following ingestion of colostrum or administration of plasma.

Blood samples may need to be submitted for a haematology (to measure white cell count) and serum biochemistry (to measure inflammatory markers such as fibrinogen) – however this depends on how compromised the foal is.

Examination checkpoints

Lastly, examination of the foal's behaviour will always provide clues to how matters are progressing. Check the interaction of the foal with the mare and its environment:

- Is the foal showing interest in the mare and running around without bumping into objects?
- Does the foal suckle with vigorous enthusiasm?
- Is the mare's udder constantly engorged or is there milk splatter on the lower hind legs (this may be a sign of reduced suckling)?
- Is there any evidence of milk running out of the foal's nose during feeding?

A good clinical examination of the foal (checking joints and umbilicus for any heat/swelling and palpating the ribs for any fractures) and assessment of vital parameters (heart and respiratory rate, and temperature) should be performed by your veterinarian within the first three days.

Knowing that you have adequately prepared and followed the above suggestions, prepare yourself for endless days of watching your newborn grow. Good luck with the season!

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