Clinical ethology to benefit mare and/or foal around and after parturition

Machteld C. van Dierendonck
Dr. EurProBiol, Utrecht University, Veterinary Faculty, Ethology & Welfare Group
The Netherlands, m.c.vandierendonck@vet.uu.nl

The birth of a foal is an important and critical period especially for the foal, not only physically but also behaviourally (1). A normal birth with an undisturbed imprinting period of several hours of both mare and foal leads to a close dam-foal binding. Disrupted imprinting can often lead to problems in bonding, milk intake, insufficient protective behaviour of the dam as well as redirected social and sexual behaviour later in life and must therefore be strongly avoided (2,3). Depending on the time mis-imprinted foals are denied contact with other foals and conspecifics they will have increasing problems in understanding horsespecific behaviour. They can even become afraid of their own species and often will be incapable of reacting properly to other horse's signals towards them, increasing the risk of conflict and injury (2). In case of unintentional disruption of the imprinting due to serious illness or death of the dam at or shortly after parturition, proper measures should be taken to minimise the above described effects. This can be done either by fostering the foal to another mare or bucket feed it in a herd of other mares and foals (3). Various techniques which can be used to accomplish this fostering will be shown during the presentation. Basically it is important to concentrate on creating positive associations between the foster mother and the new foal.

Some mares show various levels of aggressive behaviour against their new born foal to sucking (suckling rejection) or even are aggressive in general (foal rejection). Often these mares are maiden mares (3) or Arabian mares (4). It is possible that a combination of pain experienced during parturition, pain when touching a very full udder, neophobia and/or fear of the foal induces the aggressive reaction in the maiden mare. Mares which tend to reject their foal show less post-partum licking and were less likely to show protective behaviour (3). These signs should be taken seriously since these mares can kill their foals. Maiden mares have not yet experienced relief from suckling on the pressure of the udder, which will onset the oxytocin release which in turn enhances the milk flow as well as the imprinting of the foals odours. A 3
minute vaginal-cervical stimulation is believed also to stimulate oxytocin release (5) in foster cases or when it takes long for the foal to be allowed to suckle. Together with appropriate clinical care, professional counter conditioning of both mare and foal can (re-)establish the dam - foal bond (figure 1). During periods of separation of dam and foal due to veterinary care of a (neonate) foal, it is important to keep visual (and possibly olfactory) contact between dam and foal to avoid that the mare does not receive enough stimuli from its foal and the laborious (and risky) re-establishment of their band is needed (3). There are almost no physiological parameters which are different between rejecting and non rejecting mares, only the serum concentration of progesterone was lower immediately pre-partum in rejecting mares (4). Arabian mares seem to be genetically predisposed to reject their foals compared to thoroughbred and paint mares (4). Often clinical ethologists experience hypersensitivity in the groin area of these mares. Desensitisation combined with an appropriate management of the suckling episodes can regularly solve the problem with maiden Arabian mares. With multi-parous mares preventive treatment of the mare can prevent rejection with future pregnancies.

Foals are precocial so they imprint socially and sexually in a short time. Furthermore it is presumed they have a relative long sensitive period to develop their social communication skills (6). Foals seem to develop the best social and physical skills when kept at grass permanently with at least one other sibling, preferably of the same sex (6,7). Natural weaning takes place through gradual rejection of suckling by the dam around 8-9 month, dispersion from the family band takes place around 1.5-3 years (6). There are many combinations of different factors in practice for weaning like: age at weaning, abrupt (with or without other siblings) weaning, gradual weaning, weaning in stalls, barns or at grass. Each method has its pro’s and con’s. A large 4 year epidemiological study showed that early weaning and weaning by confinement in a stable or barn was associated with an increased rate of development of abnormal behaviour (like stereotypes and cross suckling), compared with paddock-weaning and housing in barns or at grass (8,9). Feeding concentrates after weaning was associated with a 4-fold increase in the rate of development of crib-biting. At 20 weeks of age, over 10% of the foals had started cribbing (20 weeks coincides with the mean domestic weaning age) (9).

Techniques to prevent the onset of abnormal behaviour during weaning will be presented.

References