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“My mare is in heat all the time” and “My mare is hard to work with when she’s in heat” are familiar complaints from owners of performance mares. The veterinarian’s job is to determine if the owner is interpreting the behavior of the mare correctly, whether there truly is a problem, and if there is, whether it is related to the reproductive system. It is well known to equine veterinarians that mares go through a transitional period in the spring between winter anestrus and the breeding season. However, many horse owners do not understand what spring transition is or how it affects behavior. Estrous behavior can be erratic, lasting just a few days or for much longer periods. The time interval between periods of estrous behavior is not a consistent 14 to 15 days, as is typical of diestrus during the breeding season. Owners need to be educated that this pattern of behavior is normal during transition. Furthermore, it is important that they understand that these periods of erratic estrous behavior are not accompanied by fertile ovulations. When presented with a mare suspected of being in transition, more than one examination may be needed. On palpation and ultrasound exam, follicles, often multiple, will likely be found on the ovaries. The cervix will lack tone, due to the absence of progesterone. Clues that the mare is in transition rather than true estrus are the presence of multiple follicles, oftentimes without a clear dominant follicle and the lack of edema in the uterus. If unsure whether a mare is in transition or true estrus, a repeat examination in 7 to 10 days can be performed. If she was in estrus, there should be evidence of an ovulation, but if in transition, the picture will look much the same.

During the breeding season, diagnosis of the problem can be more complex. A good history is absolutely essential. What specific behavior is the mare exhibiting? How often and when does it occur? In some cases, a record of the behavior kept on a calendar, identifying when the problems are evident – how often, of what duration; and what activities they are associated with, can be of great benefit. Again, client education is essential. It can be rather surprising to find out how little about normal equine behavior many horse owners know. For example, it is not uncommon for a mare owner to interpret the behavior of a mare that is urinating, but with her tail clamped down and ears back, as being “in heat”. Mares in estrus exhibit receptive behavior, not avoidance. While urinating they lift their tail and move it to the side and their ears are upright. When a mare is exhibiting avoidance behavior on a consistent basis, it is unlikely that her estrous cycle is the cause of the problem. However, a thorough physical examination, including the reproductive system, should be conducted, including palpation and ultrasound, and an assessment of the perineal conformation. Pneumovagina, which can be present even when perineal conformation is normal due to athletic activity causing increased negative pressure in the vagina, can result in vaginal pain and has been associated with hypersensitivity, back pain, frequent urination, and a general “bad attitude” 1. Referred pain is a well documented problem in humans and the rat has been used as an experimental model 2.
pears that similar situations can occur in mares. In 14 mares with performance problems that were diagnosed as having pneumovagina, within 6 months of having a Caslick’s procedure performed the performance problems were eliminated in 8, or diminished in 12, of the 14 mares

Granulosa thecal cell tumors (GTC) are a well known cause of behavioral changes and can result in nymphomania, anestrus, or stallion-like behavior, depending on the steroid hormone that the tumor is producing. The most common complaint is stallion like behavior in a mare, with approximately 50% of GCT tumors producing testosterone. A review of GCT is beyond the scope of these proceedings, but in cases where the diagnosis is not clear from history and physical exam, an assay for inhibin can be enlightening because it is elevated in over 85% of cases.

Another consideration when confronted with a mare exhibiting “bad” behavior that the owner believes is related to issues involving the reproductive system, is that the behavior, while certainly “bad” and difficult to work with, is unrelated to the reproductive system. Other sources of pain stemming from problems involving the musculoskeletal, gastrointestinal or urinary tract should considered in the work-up. A more in-depth discussion of diagnostics to identify the source of pain can be found in. In other cases, seemingly benign activities can be associated with undesirable behavior through negative conditioning. For example, an ill-fitting saddle can cause sufficient discomfort that a mare will associate being saddled with the discomfort and exhibit avoidance behavior when the tack is being assembled.

Unusual behavior may occasionally be observed in normal mares. In a study of mounting behavior in mares, 105 mares were observed over 3 years. When mounting behavior was observed, a blood sample was obtained for hormone analysis. Fifteen mounting interactions were observed, 2 during the early luteal phase and 13 during the follicular phase. Testosterone was higher in the mounting mares than in the standing mares (p<0.01); and the control mares (p<0.08).

There were no other hormonal differences found.

In a survey of 767 equine practitioners, approximately 90% believed the effect of the estrous cycle was somewhat important in performance mares with only 1% believing it had no effect. Most of those responding (89%) treated mares for behavioral problems related to the estrous cycle, usually using altrenogest. However, approximately 10% used hormone implants created for use in cattle, even though this is off-label use. Of those using altrenogest, 60% reported a perceived improvement in behavior by the owners / trainers and 44% reported an improvement in performance. Of those using implants, 71% reported a perceived improvement in behavior by the owners / trainers and 52% reported an improvement in performance. These results are interesting given the numerous conclusive studies where cattle implants have failed to show any effect on ovarian activity or cyclicity. A long acting formulation of altrenogest would be preferable to cattle implants if one wished to avoid daily administration of altrenogest.

A more long term solution would be the use of GnRH vaccine (Equity). However, widespread use of this vaccine has only been employed fairly recently and the long term consequences of its use in young horses are not well defined. A permanent solution is, of course ovariectomy. While this is the obvious treatment of choice for mares with granulosa thecal cell tumors, mare owners must consider the irreversibility of the action when contemplating its use in mares with behavioral problems. On the other hand, veterinarians should not overlook it as one possible option for mares with these problems. In a survey questioning owners whose mares had undergone ovariectomy for behavioral reasons, behavioral improvement was reported in 19 of 23 (83%). Aggression was improved in 12 of 14 (86%), “general disagreeable demeanor” improved in 17 of 21 (81%), excitability improved in 12 of 16 (75%), kicking & biting improved in 8 of 11 (73%), problems in training improved in 13 of 18 (72%), frequent urination improved in 7 of 11 and problems with
other horses improved in 9 of 14 (64%) ⁹. Clients were generally pleased with the results in mares ovariecetomized for “cycle related colic”, but in mares ovariecetomized for “cycle related laminitis”, clients were generally dissatisfied. In mares that exhibit problem behavior, making it difficult to work with them, a thorough examination into possible causes of the behavior in question should be performed as discussed in ⁴. If all other causes have been ruled out and the reproductive system does seem to be at the root of the problem, ovariecetomy, albeit a permanent solution, may allow a horse owner to have a mare that they can work with and use for her intended purpose.

REFERENCE LIST


