Medical Problems in the Immediate Postpartum Period

Ahmed Tibary, DMV, PhD, Diplomate ACT*; Lisa K. Pearson, DVM, MS, Diplomate ACT

Postpartum complications represent a large proportion of broodmare practice. The aim of the present article is to provide a concise review of the clinical assessment of the compromised mare in the immediate postpartum mare. Diagnostic approach and treatment of the most common genital causes of postpartum complications is provided. Authors’ address: Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Washington State University, Pullman, WA 99164; e-mail: tibary@vetmed.wsu.edu. *Corresponding and presenting author. © 2012 AAEP.

1. Introduction
Postpartum complications in the mare may arise any time within the first 2 weeks after foaling. This time frame is arbitrarily chosen because most mares are expected to be in heat and re-bred between 10 to 20 days postpartum. Evaluation of the parturient mare is often overlooked, particularly by small breeders or the single mare owner unless severe complications are noticed. In stud farm conditions, resident veterinarians will have a standard protocol for assessment of the postpartum mare. This article reviews the principles for evaluation of the postpartum mare and some of the most important complications in the immediate postpartum period.

Clinical Assessment of the Postparturient Mare
Clients should be educated to call for veterinary examination of the postpartum mare within 12 to 18 hours of foaling, even when everything seems to be normal. Complete clinical examination of the mare should be performed efficiently and without stress so that the mare-foal bonding is not disturbed. It is important to remember that further clinical evaluation and therapeutic strategies may be required after evaluation of the mare, placenta, and foal.

There are several factors that may increase the risk of postpartum problems in the mare. Some of the historical relevant data may be from previous foalings, whereas other data pertain to the foaling on hand.

The age of the mare is relevant for very young mares with no previous foaling data as well as older mares (greater than 17 years) that may be prone to specific conditions such as uterine artery rupture. Some breeds (miniature, draft breeds) are predisposed to metabolic disorders. Mares with a previous history of dystocia or postpartum conditions are generally considered at an increased risk, but this has not been thoroughly evaluated. Other conditions that should be considered are history of retained placenta or previous injury to the reproductive tract (perineal or cervical laceration).

Risk factors relative to the foaling at hand include high-risk pregnancy mares, colic surgery during gestation, late-term pregnancy complications (placentitis, uterine torsion, etc), abnormal (too short or too long) pregnancy length, unsanitary foaling condi-
tions, weak or dead foal, and unattended foaling. The preparation of the mare for foaling is an important factor in this evaluation. Preventive measures such as vaccinations and antiparasite treatment, nutrition, monitoring during the last few days of pregnancy (ie, mammary gland secretion), as well as any history of illness during pregnancy should be discussed with the owner.

Evaluation of the mare that had an apparently normal foaling and no apparent problems in the immediate postpartum period should start with observation of maternal behavior and acceptance of the foal. Many postpartum conditions will often result in poor foal-mare bonding. Physical examination should include assessment of the mucous membranes, examination for abrasions around the eyes or tuber coxae, determination of heart rate, and evaluation of lung sounds and respiratory rate. The digestive tract should be evaluated by listening to gut sounds in all quadrants and evaluation of fecal production. Observation of urination is an important parameter in the evaluation of the postpartum mare. Lack of urination may be due to ruptured bladder, painful conditions preventing the mare from assuming normal urination posture, or retrograde urine spilling into the uterus. Inability to void urine normally may become complicated by urinary bladder paralysis/tony. The mammary gland should be carefully examined to assess normal function. Ideally, colostral quality should be assessed immediately after foaling, using a Brix refractometer. External examination of the perineal region for swelling or discharge is important, particularly if the mare is a maiden or was unattended during foaling. Vaginal examination is highly recommended. The mare and foal should continue to be monitored for a few days for normal behavior, appetite, thirst, defecation, and urination. Systematic uterine lavage has been advocated by some veterinarians for all mares, but the authors are not in favor or such practice unless there is evidence of complications. The best measure to guarantee normal postpartum involution is providing adequate physical exercise for the mare.

Evaluation of the placenta is an integral part of the evaluation of the postpartum mare as well as the health of the neonate. Clients should be educated to examine or at least collect, weigh, and keep the placenta in a cool area (cooler or refrigerator) until examined by the veterinarian. Overuse of oxytocin in postpartum mares has been a major problem in the authors’ experience, and for this reason we prefer not to recommend its use until the mare is evaluated.

Advanced clinical evaluation and possibly hospitalization is highly recommended in all cases with a history of dystocia, retained placenta, or clinical signs of colic, hemorrhage, or toxic shock. Baseline complete blood count (CBC) and blood biochemistry panels should be obtained before initiation of therapy. Digital pulses should be evaluated frequently. Transabdominal ultrasonography is the technique of choice of evaluation of the postpartum sick mare and is very helpful in detection of abnormal peritoneal fluid (ie, peritonitis, hemoperitoneum, uropertoneum). Abdominocentesis and analysis of peritoneal fluid should be part of the evaluation of the postpartum mare whenever foaling has necessitated major obstetrical intervention (dystocia resolved by manipulation or fetotomy) or when the mare is severely depressed with signs of colic that is nonresponsive to initial therapy. Incoordination (ataxia) or poor ambulation of the mare and/or lack of urination warrants further examination for compressive lesions within the spinal column or pelvis.

Mares displaying depression or fever should be monitored by repeated abdominocentesis. If a single parameter is changed (increased total protein [TP], white blood cell [WBC] count, or percentage of neutrophils), continue monitoring. If two parameters are changed (TP >30 g/L, WBC count >15 ×10⁹/L, >80% neutrophils), immediate action is required. These parameters are usually indicative of peritonitis or severe gastrointestinal compromise and require initiation of fluid, anti-inflammatory, and antibiotic therapy. Evacuation to a specialized referral center should be considered.

Often the veterinarian is called because of a dystocia in progress or because the owner has noticed abnormalities in the placenta or the mare’s demeanor. It is very important that mares with signs indicating a developing complication be confined to a calm area and special attention be given to avoid accidental injury to the foal by a colicky, depressed, or uncoordinated mare. Use of sedatives should be carefully considered because of the depressive effects they may have on an already compromised mare.

Specific Conditions of the Postpartum Period

Complaints in the immediate postpartum period may vary from a simple behavioral problem (foal rejection) to severe colic syndrome. Most of the complications observed are directly related to the gastrointestinal or urogenital system. Although retained placenta is one of the major complications/emergencies in the postpartum mare, it will not be discussed here because it is presented in another paper in these proceedings.

Septic Metritis

Septic metritis accounts for 8% of postpartum emergencies and may be seen in mares as a result of dystocia, partial or total retained placenta, and/or excessive nonjudicious obstetrical manipulations. The syndrome can be very acute or develop over 2 to 3 days postpartum. Clinical signs are variable and include fever, depression, tachycardia, injected mucous membranes, a toxic line, and bounding digital pulses. Fetal vaginal discharge may be noted when walking the mare or after palpation. Palpation per rectum may reveal a thin-walled, distended uterus.
Vaginal examination may reveal other cervical and vaginal lesions in addition to a foul-smelling discharge. Ultrasonography often shows a large volume of intrauterine fluid with highcellularity. Placental tags may be visualized in some mares with a history of retained placenta or unobserved foaling. The uterine wall may show severe edema and separation of the endometrium. CBC may show severe toxic changes and leukopenia. In severe cases, peritoneal fluid may show an increased number of nucleated cells and total protein concentration. Some mares may be severely dehydrated and have grayish, tacky mucous membranes. For unknown reasons, gastric reflux is not uncommon. Postpartum septic metritis is often associated with Gram-negative bacteria such as *Escherichia coli* and *Klebsiella pneumoniae*. The key in managing these mares is aggressive fluid therapy, antibiotics (potassium penicillin 22,000 IU/kg, q 6 hours IV, and gentamicin sulfate 6.6 mg/kg, q 24 hours IV), and prevention or management of lamination. Large-volume lavage (10 to 20 L) of the uterus should be performed twice a day initially to eliminate debris. Fluids should be warm (40°C to 45°C). Initially, the lavage should be observed with transabdominal ultrasound. This will allow the clinician to detect any placental tags. Care should be taken not to damage the uterine wall. Treatment with nonsteroidal anti-inflammatory drugs (NSAIDs) (flunixin meglumine 0.25 mg/kg q 8 hours IV) and soft bedding are highly recommended. Severe cases may require additional therapy with equine plasma polymixin B (1.5 million IU in 3 L lactated ringer’s solution [LRS] IV) and pentoxifylline (7.5 mg/kg, q 24 hours PO). Management of lamination includes frog support, hoof icing, and heparin therapy. The use of vasodilators (acepromazine maleate 0.02 to 0.04 mg/kg, q 4–6 hours IM) helps in some cases, but mares should be carefully monitored for hypotension. Euthanasia should be considered if the mare is severely debilitated and severe rotation of the third phalanx has occurred.

Postpartum Hemorrhage

Postpartum hemorrhage has been incriminated in about 40% of postpartum mare deaths and constitutes a high level emergency. Although some of these hemorrhages may occur before foaling, most are reported in the immediate postfoaling period. In one study, urogenital hemorrhage accounted for 16.6% of 163 cases of postpartum emergencies in the mare.

Predisposing factors include age and dystocia. The mean age of mares with uterine hemorrhage seen by the authors was 17.5 (range, 8 to 21; n=18). Older mares experience histological changes that modify the elasticity of the arteries. Disruptions of the internal elastic lamina, adventitial elastosis, fibrosis, calcification of the intima, and other degenerative vascular changes have been described in old multiparous mares. These changes are generally grouped under the term of “pregnancy sclerosis.” Other predisposing factors cited in the literature include previous episodes of hemorrhage. The right side appears to be more prone to this injury, probably caused by displacement of the cecum.

The hemorrhage may be from the middle uterine artery, utero-ovarian arteries, or external iliac artery. Hemorrhage may be obvious (expulsion of large volumes of blood from the vagina) or may be contained within the uterus (intrauterine hemorrhage), the abdominal cavity (hemoperitoneum), or the broad ligament. Broad ligament hemorrhage is very painful and generally occurs from rupture of the proximal middle uterine artery. Hemorrhage from the external iliac artery or caudal arterial blood supply may cause swelling of the perineum on the same side.

Clinical signs are generally visible immediately or within 24 hours of foaling. The owner may report the mare is acting painful or showing moderate to severe colic signs, Flehman response, excessive vocalization, depression, sweating, or muscle fasciculations. Mares often have tachycardia (up to 140 beats/min). Some mares may be in hypovolemic shock (sweaty, weak/thready pulse). The mucous membranes are normal initially and become pale or blanched later. Transrectal palpation is extremely painful and should be limited. Transrectal and transabdominal ultrasonography may reveal large hematomas (Fig. 1). Transabdominal ultrasonography may show a hemoperitoneum that can be confirmed by abdominocentesis (Fig. 2). However, absence of hemoperitoneum does not exclude hemorrhage, as it may be contained within the broad ligament and associated structures. Peritoneal fluid shows increased total protein (up to 50 g/mL) and normal WBC count. The packed cell volume (PCV) and red blood cell numbers may be normal early due to splenic contraction and fall quickly later on (PCV <18%). Severe blood loss leads to staggering caused by cerebral hypoxemia. Common complications include fever, leukopenia, physiologic arrhythmia, and thrombophlebitis. Abscess formation within the hematoma has been observed by the authors in two mares.

Differential diagnoses include normal 3rd-stage labor cramping that generally responds to spasmylic treatment with N-butylscopolammonium bromide (Hyocine-NB-buty1bromide) and uterine wall tears (peritonitis). Abdominocentesis in cases of uterine tears and perforation shows increased WBC count (>5 x 10^9/mL) and/or the presence of squamous or other cells from amniotic and allantoic fluid. Other conditions that should be differentiated include cecal rupture, large colon volvulus, incarceration of small intestine or small colon, uterine prolapse (which should be obvious), fractures (pelvis, femur, or tibia), and bladder rupture. The precise diagnosis can be made by careful examination of peritoneal fluid and ultrasonographic imaging of the abdomen.
Clients should be cautioned that treatment may be very costly. During the initial call, the client should be advised to place the mare in a dark, quiet stall with the foal. Treatment will be based on supportive care to support cardiac output and ensure oxygen delivery (intranasal oxygen insufflation at a flow rate of 5 to 10 L/min). Fluid therapy should be initiated as soon as possible with a bolus of 2 to 3 L hypertonic saline followed by 10 to 20 L of LRS or Hartman’s over 2 to 4 hours. Use of high oncotic pressure colloids (Hetastarch, 3 L) or synthetic oxygen carriers may be useful but expensive. Whole blood transfusion (5 to 8 L over several hours) is indicated if the PCV falls below 15%. Tranquilizers should be carefully used because they may exacerbate hypotension. Sedation with butorphanol tartrate and xylazine is preferred by most practitioners, and acepromazine is to be avoided. Corticosteroids may be beneficial in cases of hypovolemic shock. Additional supportive therapy should include antimicrobials, NSAIDs, and antioxidants (such as pentoxifylline). The antifibrinolytic drug aminocaproic acid is given as a bolus of 20 g in a liter of saline IV over 20 minutes followed by 20 to 40 g in 10 L of isotonic fluids every 6 hours. Prepartum tears may occur after severe uterine torsion or fetal hydrops. Sudden death may result if major blood vessels are involved. In one study, uterine tear was the third most common cause of death in the postpartum mare after urogenital hemorrhage and gastrointestinal rupture. Uterine tears accounted for 5.5% of 163 mares admitted for postpartum emergencies in one study. Clinical signs are variable and depend on the extent of the tear and rapidity of contamination (peritonitis) and include depression, anorexia, colic, and fever. In the postpartum mare, the tear is often caused by fetal hoof penetration through the dorsal wall of the uterine body just cranial to the cervix or at the tip of the gravid horn; however, tears may also occur on both the ventral and dorsal aspects of either uterine horns or uterine body. Some studies have reported significantly more right uterine horn tears than left uterine horn tears. Diagnosis may be reached by simultaneous vaginal and transrectal palpation,
abdominocentesis (serosanguinous to sanguinous fluid, components of fetal fluids, and bacteria), ultrasonound (hemoperitoneum), and celioscopy.\textsuperscript{11,17,19} Peritoneal fluid often shows increased total protein, WBC count, and neutrophilia.\textsuperscript{20} Palpation per vaginum is very sensitive in the diagnosis of uterine body tears, but the majority (up to 75\%) of uterine horn tears are missed.\textsuperscript{17} Uterine tears should be suspected in all mares with evidence of peritonitis on transabdominal ultrasonography and abdominocentesis. In one study, the most common isolates were \textit{E. coli}, \textit{Staphylococcus spp.}, \textit{Streptococcus equi} subsp. \textit{zooepidemicus}, \textit{Streptococcus dysgalactiae} subsp. \textit{equisimilis}, \textit{Bacillus spp.}, \alpha-hemolytic streptococci, \textit{K. pneumonia}, \textit{Enterobacter cloaceae}, and \textit{Proteus spp.}.\textsuperscript{17}

Uterine tears may be treated medically or surgically. Both types of treatment carry similar prognosis as far as survival and breeding future of the mare.\textsuperscript{15,17} The surgical approaches are via ventral midline celiotomy, flank laparoscopy or laparotomy, or vaginally in Trendelenburg position. The uterine tear is identified and sutured.\textsuperscript{12} Suture after prolapsing the uterus has been successful in some cases when performed in the immediate postpartum period.\textsuperscript{21} Medical management of uterine tears is aimed at promoting placental detachment and uterine involution. Treatments include oxytocin, intravenous fluid therapy, antimicrobials, NSAIDs, and anti-endotoxin therapy. Some cases of severe peritonitis may require abdominal lavage and use of hemostatic agents (aminocaproic acid, yunnan baiyo). Preventive therapeutic measures should be taken to reduce the risk for laminitis. The major immediate complication of uterine tears is evisceration. The authors have seen an entrapment of the spleen within the uterine tear in one case. Mares that present with severe leukopenia, tachycardia, and gastric reflux are less likely to survive.\textsuperscript{17,15}

Prognosis for survival of the mare and return to breeding is generally good if the lesion is discovered early and the mare promptly treated.\textsuperscript{16,17}

**Uterine Prolapse**

Uterine prolapse is relatively uncommon in the mare. The most common predisposing factors are dystocia, retained placenta, or persistent straining due to perivaginal pain. Uterine prolapse can occur hours or days after foaling. Clients should be instructed to place a mare in a quiet, clean area with the foal and to support the uterus with a large plastic bag to prevent contamination and/or rupture. Ultrasonographic examination of the prolapsed tissue before attempting replacement is important to determine if it contains the urinary bladder (eversion or prolapse) or intestines (hernia). The tissue is at an increased risk of rupture if it is edematous or friable. Replacement of the uterus may be performed after epidural anesthesia, but often general anesthesia is required to eliminate abdominal contractions. In the field, placement of a nasogastric tube may help reduce abdominal efforts. The uterus is replaced carefully and distended, using large volumes of fluid. Further medical management is similar to metritis or retained placenta. The mare should be checked for hypocalcemia and monitored for hemorrhage by ultrasonography and/or abdominocentesis. Prognosis is poor if loops of bowel are entrapped.\textsuperscript{10,16}

Partial Inversion (Intussusception) of the Uterine Horn

Partial inversion of the uterine horn is the initial step in uterine prolapse and is often due to aggressive traction of a retained placenta, excessive use of oxytocin, or straining. The major complaint is postpartum colic. The invaginated tip of the horn can be felt transrectally as a thick, short, tight band of tissue. Palpation of the ipsilateral broad ligament often produces a painful reaction in the mare. Abdominocentesis may show an increased TP but stable WBC count. The tip of the uterine horn can be pushed back manually per vaginum or by uterine distension, using a large quantity of fluid after administration of a spasmylytic drug such as N-butyrylcolalammonium bromide. Necrosis of the tip of the horn and peritonitis may ensue if the condition is left untreated. Partial or total hysterectomy should be considered in these cases.\textsuperscript{16}

**Gastrointestinal Complications**

Examination of the distressed postpartum mare should also rule out complications that are not genital in nature. Postpartum mares may show various degrees of colic and absence of or production of little feces due to postpartum pain. Manual removal of fecal material, use of analgesics, administration of mineral oil, and use of laxative feeds help in the majority of cases. Prevention of colic in the postpartum mare is based on reduction of the amount of roughage prepartum. The most serious condition that is not responsive to medical management is a large colon volvulus.\textsuperscript{14,22} A recent study on 163 postpartum emergency admissions to a referral hospital found gastrointestinal disease involvement in more than one-third of the cases, including colon volvulus (16.6\%), small intestinal diseases (7.4\%; eg, small intestinal volvulus, mesenteric rent, adhesions), primary cecal disease (6.1%), and small colon disease (3.1\%; eg, trauma during parturition, mesenteric rent, perforation). Other gastrointestinal disorders seen in the same study included colitis, large colon impaction, large colon displacement, and nephroplenic entrapment.\textsuperscript{1}

Mares with postpartum gastrointestinal disease may present with various complaints, depending on the duration of the problem and site of the lesion. Signs may be vague and include depression, colic, tachycardia, fever, and gastric reflux. Mares with large colon volvulus often show violent colic with obvious abdominal distension. Transrectal palpation, transabdominal ultrasonography, and abdominocentesis are often helpful in determining the need
for emergency surgery, but often mares are too painful for safe examination and surgery is elected without diagnostic tests. Prognosis is fair if the diagnosis is made early and surgical intervention is rapid. In delayed cases, compression of the small colon, rectum, or cecum between the uterus and pelvis may result in bruising of the abdominal viscera, rendering the prognosis poor. Complications may include peritonitis, mesenteric rents resulting in ischemic necrosis or incarceration of a segment of the bowel, and rupture of the tip of the cecum.

Rectal prolapse has been described in the postparturient mare and requires immediate referral to a surgical facility. Necrotic vaginitis should be suspected in any mare with vaginal discharge and contusions. Severe vaginal inflammation may also be a consequence of fetotomy. If not treated promptly, laceration of the vagina can become necrotic and may be fatal. In other cases, vaginal adhesions may develop. The abraded vaginal walls tend to heal and seal over together, forming a complete wall. These mares often develop pyometra. Bladder paralysis and atony may result from inability to posture and evacuate the bladder due to the vaginitis or presence of vaginal masses. Regular catheterization of the bladder or even placement on an indwelling urinary catheter is often warranted until the swelling is reduced. Systemic antimicrobial and NSAID treatment is recommended in severe cases. Vaginal adhesions may be prevented by local application of a lanolin-based ointment containing antibiotics and anti-inflammatory drugs.

Urinary Tract Complications

The most common urinary tract postpartum complications are bladder rupture, bladder eversion/prolapse, and bladder atony (paralysis).

Bladder rupture is often a consequence of tissue necrosis caused by compression against the pelvis during a dystocia. Mares with a bladder rupture often present with depression or mild colic, progressive abdominal distension, and tachycardia. Transrectal palpation and ultrasonography often reveal very small bladder and thickened small intestine. Transabdominal ultrasonography will reveal various amount of free fluid suggestive of uroperitoneum. Diagnosis is confirmed by analysis of peritoneal fluid, which should demonstrate increased WBC count, nucleated cells, and high creatinine (ratio of peritoneal to plasma creatinine of more than 4 to 1). The exact site of the tear can be determined by endoscopy of the bladder or by laparoscopy. Direct manual examination of the bladder may be possible in large mares immediately after parturition. Surgical management is the only viable option.

Eversion of the bladder, when the mucosal surface of the bladder is visible externally, may result from persistent straining and invagination through the large urethra. Prolapse of the bladder, when the serosal surface of the bladder is visible, may occur through a vaginal rent. Ultrasonographic examination of the tissue should be performed to evaluate the content and possible involvement of the small intestine. Management of these cases requires replacement of the bladder after epidural anesthesia and surgical correction of the defect. Mares should be placed on systemic antimicrobial and anti-inflammatory therapy.

Necrotic Vaginitis, Vaginal Masses, and Vaginal Adhesions

Necrotic vaginitis should be suspected in any mare with severe perineal swelling, straining, or urinary problems. Necrotic vaginitis may occur after a presumably normal parturition. However, in most cases, a history of dystocia and obstetrical manipulation preceded the onset of clinical signs. Vaginal pressure necrosis may occur after severe swelling and contusions. Necrotic vaginitis or presence of vaginal masses. Regular catheterization of the bladder or even placement on an indwelling urinary catheter is often warranted until the swelling is reduced. Systemic antimicrobial and NSAID treatment is recommended in severe cases. Vaginal adhesions may be prevented by local application of a lanolin-based ointment containing antibiotics and anti-inflammatory drugs.

Rectovaginal Tears and Perineal Lacerations

Perineal lacerations are common injuries of foaling. First-degree lacerations involve mainly the mucous membrane of the vestibule and skin of vulvar lip. Second-degree laceration involves deeper tissues of the perineal body. Both of these conditions are not life-threatening and can be managed easily with reconstructive surgery (Caslick’s or vulvoplasty). Medical management may include antimicrobials, NSAIDs, and tetanus toxoid, depending on severity of the lesions. Fecal softeners such as mineral oil or bran mashes help in rapid healing. If the mare is to be bred at foal-heat, then artificial insemination is recommended, if permissible, if no further complications are present. Surgery may be delayed for mares requiring natural cover until after ovulation.

Third-degree perineal lacerations involve all tissues between the rectum and dorsal wall of the vagina, forming a cloaca or rectovaginal fistula. These lesions are best left to heal by second intention and are surgically corrected after 4 to 6 weeks. Most mares will breed successfully after repair of a third-degree laceration.

Perineal Bruising and Vulvar Hematoma

Mares with perineal protrusion should be examined carefully to determine if the hematoma extends into the vagina. Hematomas in this are the result of ruptured obturator or internal pudendal arteries due to delivery of a large foal or forced extraction by inexperienced personnel. Small hematomas will resolve within a couple of weeks. Hematomas may be associated with bladder atony. Large, contained hematomas may dissect along the fascial plane within the pelvic cavity (retroperitoneal hemorrhage) and present as a large, unilateral vulvar swelling (Fig. 3). These conditions can be complicated by abscess formation and drainage either into the vagina or the retroperitoneal cavity.

Eclampsia (Lactation Tetany)

Hypocalcemia is usually found in draft breeds, miniature horses, and ponies. The mare shows rest-
llessness; tachypnea; dull, staring eyes; muscle twitching; trembling; clonic spasm; and recumbency. The condition should be differentiated from tetanus. Diagnosis is based on determination of blood calcium levels. Administration of calcium borogluconate intravenously in fluids resolves the situation.31–33

Mastitis
Acute mastitis is relatively uncommon in the postpartum period in the mare. However, examination of the udder should be part of any lameness, foal rejection, or mild colic with increased rectal temperature.1

2. Conclusion
Postpartum complications in the mare include a number of emergencies that can be life-threatening. Adequate strategies of handling the mare until veterinary care is provided, rapid diagnosis, and aggressive treatment are important factors in the prognosis for survival. Colicky postpartum mares should be examined thoroughly for genital and gastrointestinal causes of discomfort. Examination should include a complete physical examination, abdominal and reproductive tract imaging, and evaluation of peritoneal fluid. Urogenital hemorrhage and large colon volvulus are the most common causes of severe distress. Anemia, hypoproteinemia, and hypofibrinogenemia are significantly associated with hemorrhage. Dystocia is the most common risk factor for metritis, and leukopenia is the most common finding with uterine tears. Prognosis for survival is highest in mares with uterine tears, metritis, and urogenital hemorrhage (70% to 80%) and lowest in mares with large colon volvulus or small intestinal/cecal disease (40% to 44%).

References and Footnote


*Buscopan®, Boehringer Ingelheim, St. Joseph, MO 64506.*