

### **Abscess from Banamine given Intramuscularly**

On March 21, 2010 “Caro nell” was feeling a bit dumpy and wasn’t interested in eating grain. Based on her discomfort she was administered Banamine (Flunixin Meglumine), intramuscularly, as labeled on the bottle. The following morning Caro nell was still feeling under the weather and was evaluated on emergency. Her biggest problem at that time was a fever of 104°F and no appetite. The following day she developed a large swelling over the right side of her neck. Using our ultrasound we were able to figure out that the swelling was not fluid filled, but rather filled with gas. In this case, gas under the skin was a sign of a deep bacterial infection.

Unfortunately, a terrible side effect of administering Banamine in the muscle is the development of a severe muscle infection. The culprit is *Clostridium spp.* bacteria. *Clostridium spp.* produces a potent toxin that leads to a severe inflammatory reaction, thus making the animal extremely ill. Common clinical features of this disease include: warm painful musculature over the site of injection, fever, lethargy, stiffness and high heart rate. Typically these signs are seen within 48 hours of administration. Treatment entails fluid therapy, antibiotics, pain management and aggressive surgical debridement of dead tissue and drain placement (figure 1). Prognosis is considered to be guarded. Roughly 1 in 3 horses die of this disease. Of the patients that survive, many are left with an irregular appearance to the muscle and skin in the location of the injection.



**Figure 1: Day 2, several incisions have been made into the affected tissue to release gas and pus. You can appreciate how much swelling has developed in 48hrs.**



**Figure 2: Day 15, there is still a large amount of drainage from deep skin pockets. The wound still requires daily flushing and wound debridement.**

Caro nell has undergone over 10 weeks of treatment including fluid therapy, multiple minor surgeries (figure 1), weeks of antibiotics, and pain management. She also endured several weeks of daily wound flushing and debridement of any dead tissue (figure 2 & 3). In figure 4, you can appreciate the residual unevenness to Caro nell's neck musculature. This is a life threatening infection and even with best medicine not all patients can be saved. Fortunately Caro nell has responded well to treatment and is expected to make a full recovery.



**Figure 3: Day 35, Caro nell's incisions have closed significantly, but are not completely healed.**

Although the Banamine label allows for intramuscular injection, clearly such treatment is not without risk. Therefore, veterinarians currently recommend administering Banamine intravenously or orally. Intravenous injections should be performed by individuals familiar with this technique.



**Figure 4: Day 68, wound contraction continues to occur, and a minor residual scar is expected.**