

Fluid Around Pump Site

What the fluid is and potential causes:

Following subcutaneous implantation of ALZET Osmotic Pumps, swelling and fluid accumulation around the pump may occur. Provided that infection is ruled out, most likely this swelling is a seroma. A seroma is a pocket of clear, sterile, serous fluid that can accumulate after tissue trauma (i.e., blood vessel damage from tissue dissection). The seroma is a product of tissue inflammation and part of the body's normal defense mechanisms. Another potential cause for damaged blood vessels is low hung feeders in the animal's cage. If the animal is irritated it can rub against the feeder, causing damaged blood vessels and subsequently a seroma.

Treatment:

These fluids will naturally drain over time provided that there is sufficient circulation, no irritation to the implantation site, and that the animal is in good health. If the swelling does not decrease then there are a couple of options. Draining the site is one option however not recommended as the site may become infected and the swelling may reappear. An alternative method to reduce the swelling is to increase circulation to the healing area. Applying heat from a moist warm towel or from a gauze pack for 10 minutes several times a day will increase blood flow and reabsorb fluid back into the blood stream. In addition, non-steroidal anti-inflammatory medications can be administered to reduce inflammation and/or animal discomfort.*

Prevention:

The best method to treat a seroma is to prevent it from occurring. Determine whether or not the swelling is drug related by comparing the incidence of fluid accumulation between the vehicle control group and the experimental group. Subcutaneous pockets should be created with blunt instruments using a proper blunt dissection technique. Be as gentle as possible when separating the tissue and creating the pocket. When implanting ALZET pumps leave ample space to avoid pressure necrosis, however do not leave excessive dead space, which can stimulate excess fluid.

*For published NSAID dosing information, consult table 6.3 from *Flecknell P.A. Laboratory Animal Anaesthesia, second edition; A practical introduction for research workers and technicians.*

To speak with a technical support representative regarding seroma causes and management, call 800-692-2990 or e-mail us at alzet@direct.com