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Abscesses in Rabbits

Basics

OVERVIEW

- An abscess is a localized collection of pus contained within a cavity somewhere in the body.
- Unlike in cats and dogs, abscesses in rabbits do not often rupture and drain. Rabbit abscesses are filled with thick, creamy or dried-out pus, surrounded by a capsule of scar tissue. They can be either slow growing or become large very quickly, and often extend aggressively into surrounding tissues and bone. Abscesses with bony involvement (facial, plantar, joints) can be extremely difficult to treat, requiring surgery and prolonged medical care. Abscesses in rabbits are usually associated with an underlying cause. Identification and correction of the underlying cause is paramount for successful treatment.

SIGNALMENT

- Can occur in rabbits of any age, breed, or gender
- Dwarf and lop-eared rabbits are predisposed to abscesses that are caused by dental disease.

SIGNS

- Determined by organ system and/or tissue affected
- A rapidly appearing, often painful swelling with or without discharge (if affected area is visible)
- Associated with a combination of inflammation (seen as pain, swelling, redness, heat, and loss of function), tissue destruction, and/or organ system dysfunction caused by accumulation of pus
- A discrete mass of varying size may be detectable; the mass may be firm or fluid-filled.
- Inflammation and discharge from a draining tract may be visible if the abscess is superficial and has ruptured to an external surface.
- Lack of appetite or inability to chew—seen in rabbits with abscesses caused by dental disease
- Lameness, reluctance to move—with foot abscesses or painful abscesses

CAUSES

- Dental disease with overgrown tooth roots and tooth root abscesses are the number one cause of abscesses of the face, jaw, or head in rabbits.
- Trauma (such as fight wounds) or previous infection
- Pus-causing (pyogenic) bacteria—*Pasteurella multocida*, *Staphylococcus*, *Escherichia coli*, –beta-hemolytic *Streptococcus*, *Pseudomonas*, *Proteus*, *Bacteroides*.
- Facial, head, or dental-related abscesses are usually caused by bacteria that can only live and grow in the absence of oxygen (known as “obligate anaerobic bacteria”)—*Fusobacterium nucleatum*, *Prevotella* spp. *Peptostreptococcus micros*, *Actinomyces israelii*, and *Arcanobacterium haemolyticum*.



RISK FACTORS

Risk factors for the formation of an abscess are determined by the organ system and/or tissue affected. The following organs and tissues are listed with their risk factors:

- Around the eyes (periorbital), jaw, cheeks, nose—elongated cheek teeth or incisors; often caused by feeding of diets containing inadequate roughage (not enough hay); tooth trauma from inappropriate trimming of teeth or blunt trauma from falling or being dropped
- Brain—internal or middle ear infection, sinus infection; chronic nasal infections extend via eustachian tube to middle/inner ear
- Skin—abrasions, puncture (bite) wounds
- Feet (sore hocks)—improper surfaces (wire cages, non-padded surfaces), urine scalding, sitting on soiled bedding material, abrasions, trauma, puncture wounds, foreign objects imbedded in the feet; immobility from pain; obesity
- Liver—use of topical or systemic corticosteroids, blood-borne infections
- Lung—blood-borne infection, bacterial pneumonia, foreign object aspiration
- Mammary gland—mastitis
- Suppression of the immune system—systemic or topical corticosteroid use, chemotherapy, underlying predisposing disease (e.g., diabetes mellitus, chronic renal failure)

TREATMENT

APPROPRIATE HEALTH CARE

- Depends on location of abscess and treatment required
- Outpatient—small abscesses
- Inpatient—generalized bacterial infection (sepsis); extensive surgical procedures; treatment requiring extended hospitalization
- Simple lancing, flushing, and draining are not adequate to treat rabbits' abscesses. Thick pus does not drain well, and the abscess will return. It is crucial to remove or correct the underlying cause for long-term success.
- Surgical removal of abscess, nidus of infection (e.g., teeth), or foreign object is necessary.
- Appropriate antimicrobial or antibiotic therapy; length of time for antibiotic therapy varies based on the bacteria causing the infection and the location of the abscess/infection

ACTIVITY

Restrict until the abscess has resolved and adequate healing of tissues has taken place.

DIET

- It is absolutely imperative that the rabbit continue to eat during and following treatment. Not eating will cause serious intestinal motility problems (stasis or GI hypomotility) and overgrowth of dangerous bacteria in the intestines.
- Offer a large selection of fresh, moistened greens such as cilantro, romaine lettuce, parsley, carrot tops, dandelion greens, spinach, collard greens, etc., and good-quality grass hay. Also, try offering the rabbit's usual pelleted diet.
- If your rabbit refuses these foods, syringe-feed a gruel such as Critical Care for Herbivores (Oxbow Pet Products) or Emerald Herbivore (Lafeber Company, Cornell, IL); feed as much as the rabbit will readily accept. Alternatively, pellets can be ground and mixed with fresh greens, vegetable baby foods, water, or juice to form a gruel.
- Do not feed starchy, sweet, or fatty foods.
- Encourage drinking by offering fresh water and wetting leafy vegetables.

SURGICAL CONSIDERATIONS

- Surgery is necessary to completely treat all rabbit abscesses.
- Drainage alone will not be sufficient. Rabbit pus does not drain, and rubber drains are never used in rabbits. Abscesses must be surgically removed, along with the scar-like capsule, similar to the way in which a tumor is removed.
- If entire abscess cannot be removed, as much as the pus and dead tissue as possible will be surgically removed, including infected bone and tooth roots for facial abscesses. This is followed by several different means of preventing the abscess from returning, including:

- ◇ Leaving the wound open to gradually heal (called “second intention” healing). The open wound must be flushed with antiseptic solution several times a day until healthy tissue forms.
- ◇ Remove any foreign objects(s), necrotic tissue, or nidus of infection.
- ◇ Packing the wound with antibiotic-soaked gauze, then suturing the skin closed. The wound must be unpacked and dead or infected tissue removed from the cavity weekly until healthy tissue forms.
- ◇ Filling the defect with antibiotic-filled beads that release a high concentration of antibiotic into local tissues for several months. Beads should be left in the abscess site for at least 2 months but can be left indefinitely.

MEDICATIONS

- Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered all-inclusive.
- Antimicrobial drugs or antibiotics—must be given along with surgical treatment.
- If surgery is not feasible, it may be possible to limit the growth or spread of the abscess by treating with long-term antibiotics. Keep in mind that antibiotic treatment alone will not cure the abscess, but it may be helpful in prolonging life and making the rabbit more comfortable.
- The choices of antibiotics that are available for rabbits are very limited, due to the negative and potentially dangerous effects of many common antibiotics on the rabbit’s essential intestinal bacteria. Common, safe antibiotics used in rabbits include enrofloxacin, ciprofloxacin, marbofloxacin, trimethoprim-sulfa, chloramphenicol, or azithromycin. Penicillin can usually be used safely if given by injection only.
- Pain medications, such as butorphanol, meloxicam, or carprofen are commonly used in addition to antibiotics, especially after surgical treatment.

FOLLOW-UP CARE

PATIENT MONITORING

Monitor for progressive decrease in drainage, resolution of inflammation, and improvement of clinical signs.

PREVENTION/AVOIDANCE

- Prevent progressive dental disease by providing good quality grass or timothy hay; if teeth are overgrown, periodic trimming by your veterinarian may prevent progression to abscess.
- Skin abscesses—prevent fighting
- Prevent joint or feet abscess by providing clean, solid surfaces with appropriate bedding, and by preventing obesity.
- Treating ear or upper respiratory infections in early stages may prevent middle ear infections and/or brain abscesses.

POSSIBLE COMPLICATIONS

- Generalized bacterial infection (sepsis)
- Severe deformation of face with chronic facial abscesses
- Compromise of organ function
- Recurrence, chronic pain, or extensive tissue destruction

EXPECTED COURSE AND PROGNOSIS

Depend on organ system involved and amount of tissue destruction

KEY POINTS

- Correct or prevent risk factors.
- Surgical removal of pus and dead tissue is always necessary to completely cure abscesses.
- Start appropriate antimicrobial or antibiotic therapy; length of time for antibiotic therapy varies based on the bacteria causing the infection and the location of the abscess/infection

Notes

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