

# Vet Call

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## Seminal Vesiculitis

A common problem diagnosed during a breeding soundness examination of bulls is seminal vesiculitis or inflammation of the vesicular glands.

Because veterinarians are usually unable to provide an explanation of what causes seminal vesiculitis or a firm prediction of future fertility, producers may feel frustrated by the lack of answers when dealing with this problem.

The vesicular glands are paired structures that lie on the floor of the pelvis. They are lobular structures similar to two clusters of grapes. Vesicular glands, along with the prostate and bulbourethral glands, secrete fluid that acts to transport sperm during ejaculation.

Usually there are no external signs of vesiculitis. Occasionally, however, males will show signs of abdominal pain, including an arched back, reduced appetite or hesitation in mounting and thrusting.

Seminal vesiculitis is usually discovered by rectal palpation or when white blood cells are found in the semen. Bulls with a sudden and severe onset of vesiculitis may display pain when they are palpated rectally and the affected glands are usually enlarged and smooth rather than lobulated. Long-term disease of the vesicular glands usually results in enlarged, smooth glands, but pain is absent.

The semen of bulls with vesiculitis may have a brownish discoloration due to blood pigments or may be blood tinged. Microscopic evaluation of the semen generally reveals white blood cells mixed with the sperm.

Semen quality will vary among affected bulls, and although lowered fertility has been associated with seminal vesiculitis many affected bulls have a good conception rate.

**Researchers report** that in bulls with seminal vesiculitis 40.5 percent had satisfactory quality semen and 50 percent had semen of questionable quality. Unaffected bulls average 83.7 percent satisfactory and 11.7 percent with questionable quality semen.

Often, bulls with seminal vesiculitis also have disease in other parts of the reproduc-

tive tract. The presence of sperm abnormalities indicates that the testicles or epididymis are involved.

Seminal vesiculitis is primarily found in two different age populations: the young bull near puberty and the aged male. Many young bulls with vesiculitis will recover with or without treatment after several months. Older bulls, which are more commonly afflicted with chronic seminal vesiculitis, rarely recover.

**Management systems appear** to have a significant impact on the incidence and onset of this disease process. Young bulls housed in group confinement and fed high energy diets have a higher incidence compared to animals reared in a range environment.

The cause of vesiculitis is not well defined, as both bacteria and viruses have been blamed. In many cases, no infectious agent is found. Brucellosis is the most common cause of seminal vesiculitis in countries where that disease is still prevalent. The most common organism isolated from cases in the United States is *A. pyogenes*.

There are a number of theories as to how this disease process is started:

1. Infections that spread either up the urethra or down from the testicles or epididymis are possible but are not likely to be common causes of vesiculitis.
2. The spread of infectious agents from other sites of infection such as pneumonia or rumenitis is also possible, but researchers have not been able to cause vesiculitis by inducing these diseases.

Circumstantial evidence supports the theory that *A. pyogenes* travels from liver abscesses to the vesicular glands in bulls being fed feedlot-type rations, because this is an important organism involved in the acidosis/rumenitis/liver abscess complex of feedlot animals.

3. Improperly formed vesicular glands may have a role as researchers found defects in 40 percent of the bulls with seminal vesiculitis in one study. These improperly formed glands may increase the likelihood of disease due to abnormal excretion of fluid and sperm.
4. The function of the ampulla, the urethral

ducts and the vesicular gland could be less than optimal for both young and older bulls, resulting in reflux of semen or urine into the vesicular glands. Semen or urine could cause chemical irritation and inflammation. This theory might explain the high frequency of cases where no bacteria are found in the semen of affected animals.

**Treatment of seminal vesiculitis** with antibiotics or surgery is only somewhat rewarding. Spontaneous recovery from seminal vesiculitis in young bulls occurs commonly. However, at the time of diagnosis, determining which bulls will spontaneously recover is not possible.

If the bull's value encourages the producer to attempt treatment, an uncontaminated sample of fluid from the vesicular glands should be obtained by sterilely passing a small plastic tube up the penis. The fluid should be cultured and if no bacteria are found, antibiotic therapy is not indicated. If bacteria are found, they should be identified and antibiotic sensitivity should be determined.

Bacterial seminal vesiculitis requires prolonged treatment (more than 30 days) with antibiotics such as trimethoprim or erythromycin. Studies have shown that these compounds can reach effective concentrations in the accessory sex glands.

**Remember, extra-label usage** of any compound must be addressed and a prolonged withdrawal time must be observed if the animal is to be sent to slaughter. Prognosis in cases treated with antibiotics is still guarded.

Surgical removal of the affected vesicular glands is available, but overall success is poor. Upon returning to service after surgery, bulls can exhibit a decrease in semen motility, volume and sperm output. Older bulls which have chronic seminal vesiculitis associated with adhesions of the gland to the pelvic floor or wall are poor candidates for surgery.



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