

Surgical Problems of the Penis and Prepuce of Bulls

Fred C. Neal, D.V.M., M.S.

Part I

INJURIES AND OTHER ABNORMALITIES of the penis and prepuce of bulls present perplexing problems to the veterinarian. While a few of these conditions may be considered "uniformly" amenable to treatment, the percentage of bulls returned to normal service following surgery for the correction of the more serious conditions is less than is desired. Recent studies of the innervation^{1, 2} and circulation³ have added important contributions to the knowledge of the anatomy of the genitalia of the bull, and should aid the veterinarian in improving surgical techniques whereby a larger percentage of bulls can be reclaimed for breeding purposes.

The use of tranquilizers has greatly facilitated examination and the treatment of some conditions involving the penis and prepuce. In addition to obvious advantages such as the quieting effect on the bull, the ease of administration, and its rapid action following intravenous administration, the tranquilizing agents have other important advantages over caudal epidural or pudendal nerve anesthesia for withdrawing the penis from the sheath. Following the use of the nerve blocks, the penis dangles from the sheath and is vulnerable to trauma or swelling, unless it is replaced and restrained in the sheath by temporary sutures narrowing the preputial orifice. Following the administration of proper dosages of tran-

quilizers, the penis can be withdrawn from the sheath, and after the necessary examination or treatment, the penis can be replaced in the sheath and will be retained. Still another advantage of the tranquilizers is appreciated in the treatment of conditions where adhesions between the penis and other structures are a problem, and it is necessary to break down the adhesions by manual withdrawal of the penis each day. The apparent innocuous effect of the tranquilizers following daily administrations is preferable to the reactions that may follow the injections of the local anesthetics at similar intervals.

Tumors of the Penis

Fibropapillomata are common tumors



Fibropapilloma of the penis

Dr. Neal is an assistant professor in the Large Animal Clinic, College of Veterinary Medicine, Iowa State University.

affecting the glans penis of bulls between one and three years of age. These tumors may be single or multiple, and may attain sufficient size to interfere with copulation. On cursory examination it may appear that a large area of the glans penis is involved, but on closer inspection the mushroom like growths are generally found to have a small pedunculated attachment. Surgical excision flush with the surface of the penis, followed by electrocauterization to minimize the danger of erectile hemorrhage, generally will bring about uncomplicated recovery. The bull should be withheld from service for three weeks, or until healing is complete. The administration of wart vaccine has been recommended where numerous small tumors are encountered, but the critical evaluation of this treatment has not been reported.

Phimosis and Prolapse of the Prepuce

Phimosis — the inability to protrude the penis from the sheath — is generally considered to be the result of stricture of the prepuce. While balanoposthitis, congenital adhesions or papillomata may cause phimosis, this condition is more commonly associated with prolapse of the prepuce as a predisposing factor. The two conditions will be considered together.

Prolapse of the prepuce is generally the result of injury to the prepuce. The high incidence of this condition in certain breeds (Brahman, Angus, and Polled Hereford) can be explained by the tendency of these bulls to allow a portion of the prepuce to hang free of the sheath and become traumatized by brushing against objects, or by freezing of this part during cold weather. Unless proper medical attention is given the prolapsed prepuce, it invariably results in phimosis.

The prognosis is favorable only in those cases where the prepuce is pliable and reduction of the prolapse is possible. Treatment consists of thorough cleansing of the affected parts, the application of an antiseptic such as BIPP (Bismuth Subnitrate, Iodoform, Petrolatum Paste), and the replacement of the prolapsed prepuce into the sheath. Sutures placed

through the skin around the preputial orifice should be employed to retain the prolapse, and should be left in place several days. Parenteral antibiotic therapy, along with twice daily flushing of the sheath with BIPP may be indicated if severe lesions are present.

The surgical shortening of the retractor penis muscles has proven beneficial in recurrent cases. It is thought that this operation might prove beneficial in the prevention of preputial prolapse where predisposing tendencies are observed.

The prognosis as to the continued breeding ability of the bull should be guarded if contractions or adhesions between folds of the prepuce have resulted in phimosis. The surgery necessary for the correction of this condition consists of the removal of the diseased portion of the prepuce. Strict asepsis and hemostasis are necessary if this operation is to be successful. A triangular portion of skin is removed from the ventral side of the sheath, with the base of the triangle including the margins of the original orifice. The apex of the triangle is posterior to the orifice and lies on the midline of the bull. The incision is carried through the preputial membrane, and the prepuce is joined to the margin of the skin by interrupted nylon sutures. Care should be exercised to anchor the prepuce to the skin in several places before the diseased portion is removed to prevent the bull from drawing the penis and free edge of the prepuce deep into the sheath. Post-operative strictures of the orifice may redevelop, despite generous V-shaped incisions and careful techniques. If the portion of the prepuce involved in the prolapse is extensive, there is little hope of returning the bull to natural service, since the length of the penis that can be extended will be shortened by the section of prepuce that is removed.

Paraphimosis

Paraphimosis — the inability to withdraw the penis into the sheath — may be due to either the constriction of the prepuce behind the glans penis or to swell-

ing of the glans penis, making it impossible to draw this organ back through the naturally small preputial orifice. If this condition receives attention before extensive lacerations of the exposed tissues occur or necrosis of the glans penis develops, the prognosis is surprisingly good. The treatment should be directed toward the prevention of further trauma to the exposed penis and prepuce. After cleansing the tissues, the penis should be treated with an oil base, non-irritating dressing. The exposed penis is then wrapped in a layer of cotton and covered with a loosely applied bandage. The penis should then be supported against the ventral abdominal wall by a manytailed bandage or similar device. The dressing on the penis should be changed once or twice daily until the swelling subsides to the point where the penis can be drawn back into the sheath. It may be advisable to retain the penis in the sheath by sutures across the orifice until tone returns to the retractor penis muscles. Again, the surgical shortening of the retractor muscles may be necessary to prevent recurrence of the condition.

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Part II of this article will appear in the next issue of *The Iowa State University Veterinarian*.

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A variety of wild animals are thought to be temporary or permanent carriers of *Leptospira pomona*. A recent survey of wild animal serums collected in Ohio revealed presence of antibodies in deer, raccoon, fox and skunk. The finding of additional susceptible species may explain the origin of some enzootics.

A Gastric-Ulcer Condition

(continued on page 78)

Conclusions

Practitioners in the field should be on the alert for this condition. It has probably been largely overlooked as a cause of sudden death in swine. A routine autopsy of all sudden deaths in swine would probably disclose a much higher incidence than is now reported. While the large gastric ulcers are the most characteristic lesion, smaller ulcers of the gastric mucosa or of the small intestine should not be missed. Also, the ulcers may in some cases involve only the small intestine.

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ANTI-HOG CHOLERA HYPERIMMUNE SERUM INTERFERENCE. Immunity against swine erysipelas was less solid in areas of Yugoslavia where pigs were vaccinated simultaneously against erysipelas and cholera when anti-hog cholera serum was used.

Tests proved that ten of eleven commercial lots (91%) of anti-hog cholera serum examined contained antibodies against swine erysipelas. One lot (9%) had a titer of 4.65 immunity units and showed ability to lower the immunizing capacity of commercial absorbed bacterin by 47 per cent.

Since anti-hog cholera serum, being homologous, is eliminated slowly, vaccination for erysipelas should either be postponed more than two weeks after its use, or a slowly absorbed erysipelas vaccine should be used.

Kalinovica, Sarajevo, and Zagreb, Yugoslavia. Am. J. Vet. Res. 20:558-561, 1959.