DIMENSIONS IN SURGERY

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Surgical Case Report:

Prostatic Omentalization

EMPHASIS:
In the past, numerous techniques have been used in the surgical treatment of prostatitis, prostatic abscesses and prostatic cysts. Partial or complete prostatectomy, marsupialization, or debridement and drainage have all been advocated; unfortunately all of these techniques are associated with complications such as incontinence, cyst or abscess recurrence, etc.

More recently, prostatic omentalization has been described. In this procedure, after opening and draining any cystic cavities or abscesses within the prostate, a portion of the omentum is passed through the prostate by blunt dissection. This improves the vascular supply to the affected tissue and prevents re-formation of a closed cystic/abscess cavity. It is very effective in preventing recurrence of disease. In this paper, we will describe omentalization of the prostate.

PREOPERATIVE DIAGNOSTICS:

1. Physical examination.

AXIOM: During rectal palpation to evaluate the prostate, be sure to also evaluate the sublumbar lymph nodes.


3. Radiography:
   a. Two-view abdominal radiographs.
   b. Contrast cystourethrogram: to rule out concurrent abnormalities such as urethral or cystic neoplasia (which could cause similar signs to those produced by prostatitis).

4. Abdominal ultrasonography.

5. Aspirate or biopsy: these are generally not performed when a cyst or abscess is present, since the resulting leakage of fluid into the abdomen could cause peritonitis.

6. Urine bacterial culture and sensitivity.

Figure One: This schematic drawing depicts a ventral view of the canine urinary tract showing the prostatic pathology.
PREOPERATIVE CARE:

Axiom: If sepsis and shock are present, standard medical management to stabilize the patient should be immediately instituted. Surgery should be performed as soon as the clinician feels that the medical management has achieved its maximum efficacy. Often it is necessary to proceed with surgery even in a compromised patient, since the underlying disease process (i.e. a ruptured abscess and peritonitis) cannot be resolved by nonsurgical means.

1. Indwelling cephalic catheter.
2. Intravenous anesthetic induction protocol
3. Endotracheal intubation and inflate cuff.
4. Isoflurane inhalant anesthesia to effect.
5. Lead II ECG and pulse oximetry monitoring during prep and surgery.
6. Place an indwelling urinary catheter.
7. Clip and prep the ventral abdomen for aseptic surgery.
8. Cefalexin 20 mg/kg IV and enrofloxacin 7.5 mg/kg IV immediately preoperatively.
9. Intravenous fluids to maintain renal perfusion intra-op.

SURGICAL TECHNIQUE:

1. Parapreputial incision, extending from the pubis to just ahead of the prepuce.

Axiom: The caudal superficial epigastric vessels will be transected, requiring cautery or ligation. The protractor preputii muscle will also be transected.

2. Midline laparotomy, placing Gelpi self-retaining retractors to maintain exposure.
3. Place stay sutures in the bladder to facilitate manipulation.
4. Blunt and sharp dissection through the periprostatic fat along the ventral midline, to expose the prostate.

Axiom: By approaching the prostate ventrally rather than from a ventrolateral aspect, the degree of hemorrhage and the risk of nerve damage are minimized.

5. Identify any cysts or abscesses (see Figure 1).

Axiom: Of course, not all abscesses will be externally visible on the prostate.

6. Make a stab incision and, using suction, drain the contents of the cyst/abscess.
7. Culture the exudate present within the cavity.
8. Make a 1-2 cm incision in the ventrolateral aspect of the prostate, on each side (see Figure 2).
9. Using a digit or a hemostat, bluntly probe through the entire parenchyma on each side to open any smaller cystic or abscess cavities.

Axiom: The urinary catheter facilitates palpation of the prostatic urethra; avoid this structure during dissection.

10. Take biopsy samples from several sites.
11. Using a warm balanced isotonic solution, liberally flush the surgical field.
12. Pass a curved forceps through one of the incisions in the prostate, ventral to the urethra, and exiting the opposite prostatic incision (see Figure 3).
13. Grasp a portion of the omentum and draw it through the prostate gland (see Figure 3).

Axiom: If the friable omental tissue tears, enlarge the prostatic incisions and then try again.

14. Using forceps, draw the omental pedicle back through the prostate, dorsal to the urethra (see Figure 4).

Axiom: The omentum now enters the prostate, passes circumferentially around the urethra, and exits through the same incision as it entered. This places omentum throughout the parenchyma.
15. Using 2-0 monofilament absorbable suture material, suture the omentum to itself (see Figure 4).

16. Place a suction drain (i.e. a Jackson-Pratt drain) into the prostate.

17. Routine abdominal, subcutaneous, and skin closure.

AXIOM: If the patient is intact, castration should always be performed.

POSTOPERATIVE CARE:

1. Broad spectrum antibiotics for 5-7 days postoperatively.

2. In most cases the urinary catheter is removed immediately postop. It may be maintained, with a closed collection set, in dogs that are severely dysuric.

3. Drain removal 3-4 days postoperatively.
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4. Suture removal 2 weeks postoperatively.
5. Pain management as warranted using injectable, oral, or transdermal analgesics.

PROGNOSIS:
In patients that are not septic, the prognosis is optimistic with only a small risk of recurrent cyst formation. Septic patients have a 25-50% mortality.

AXIOM: With this procedure, postoperative persistent urinary incontinence is very uncommon (as opposed to prostatectomy which causes incontinence in almost all cases, and partial prostatectomy which carries a significant risk of incontinence.

AUTHOR’S NOTE
If you have any questions concerning this paper, additional references, surgical supplies or sources of products mentioned or used in this protocol, please FAX us at 1-310-479-8976. We will answer your questions promptly.

Coming Attractions
When persistent pressure is present over a bony prominence, ischemic necrosis of the soft tissues may occur, resulting in a pressure sore (decubital ulcer). Most commonly this occurs in patients who are recumbent due to trauma or neurological conditions such as a disc rupture. In particular, patients who are deep pain negative in the hindquarters are at risk. In some thin dogs, the ulcers may occur with no predisposing cause, merely by the pressure generated when the patient is sitting or lying down.

The most effective option is to resect the underlying bony prominence.

Next week we shall present our protocol for resection of the ischial tuberosity.

See you then!

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