Cloacal Prolapse and Cloacopexy in Cockatoos

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Definitions

Cloaca is a bell-shaped dilation at end of rectum, connects rectum (cranially) to vent distally, and externally. Has rectum, ureters, and ductus deferens (male) or vagina of oviduct (female) entering it. Divided into three compartments internally, the coprodeum (cranial), urodeum (middle) and proctodeum (distal).

Coprodeum connects with the rectum cranially. Separated distally from urodeum by circular mucosal fold, known as coprourodeal fold. When defaecating, the coprourodeal fold protrudes through the lips of the vent, so that the two posterior chambers are not contaminated by faecal material.

Urodeum has ureters opening dorsolaterally into it. Urogenital ducts also open dorso-laterally. They are more lateral than ureters. Terminated distally by semi-circular dorsal fold, the uroproctodeal fold.

Proctodeum connects from uroproctodeal fold to vent. Dorsally have entrance to cloacal bursa, (in immature birds).

Phallus consists of ventral folds which are a complex of of urodeal and proctdeal tissue.

Vent is a transverse slit. Lips evert into proctodeum. During defeacation and egg laying, lips are everted, and vent becomes circular.

Cloacal Prolapse occurs through the vent, and may be any, or all of the three chambers; may also contain rectum/colon, ureters, oviduct/vas deferens and phallus. Prolapsed claoca is a condition commonly seen in pet and aviary cockatoos.

Causes of Prolapsed Cloaca

Atony of cloacal sphincter (idiopathic, or associated with trauma, lack exercise, malnutrition)
Atony/collapse of internal attachments of cloaca
Adhesions/scarring of cloacal mucosa

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Cloacal papillomas
Sexual behaviour
Egg laying (N.B. temporary partial eversion of cloaca and vagina through vent is normal following oviposition)
Cloacitis (eg. bacterial involvement, such as in vent gleet)
Cloacoliths
Irritation of rectum (eg. chronic gram negative bacterial diarrhoea)
Tenesmus (eg. initiated by rectal irritation, increased abdominal pressure due to neoplasm, retained egg, etc.)

Cloacal prolapse may be acute or chronic condition. Prior to treatment, must identify underlying cause, and treat that at same time, or prolapse likely to recur. Can be an emergency, eg. egg-binding, rectal prolapse, cannibalism or self trauma of prolapse. Bird may need stabilizing before surgical correction of prolapse can be attempted.

Replacement of Prolapse

Perform under general anaesthetic.

Clean prolapse, remove necrotic tissue. If grossly swollen, can shrink with a hypertonic glucose solyution.

If cloacal papillomas, apply 5% acetic acid (apple cider vinegar), and papillomas turn white enabling removal. Remove papillomas with suitable quartery technique.
N.B. prolapse may be only protruding papillomas - condition is most common in New World Parrots. Check for underlying dietary or stress causes.
Not a common condition in Australasian cockatoos.

Lubricate prolapse, and use moistened cotton tipped applicator, or equivalent, to replace into abdomen.

If acute prolapse, and only have stretching of cloacal sphincter, can retain by using purse string or mattress sutures around/perpendicularly across vent. Sutures need to be fairly tight, but leaving sufficient space to allow defaecation.
N.B. cannot use if bird laying eggs.

Remove cloacal sutures within 4-5 days; or may get nerve damage, and post surgical cloacal sphincter atony.

Xylocaine gel inserted into cloaca twice daily will help to stop straining.

If straining due to rectal/colonic irritation, then Buscopan injection, 0.1ml/100g i.m. b.i.d. may be an effective spasmolytic for 2-3 days post replacement.

Cloacopexy, or Surgical Retention of Prolapse

Several methods can be used, treatment of choice depends on individual circumstances.

1. Percutaneous cloacopexy

Can be used as a temporary, or permanent treatment.
Define margins cloaca using thermometer or cotton tipped applicator.
Place 2 - 3 sutures (simple, interrupted) through skin, body wall and urodeum.
Remove sutures after 2 - 4 weeks.
Risk: could trap or perforate ureters, rectum, duodenum or pancreas.

2. Surgical reduction of vent aperture

Some birds have a stretched and "sloppy" vent. Reduction of size will help to prevent future prolapse.
Again, replace prolapse, and hold in place with blunt instrument.
Incise half to three quarters of external margin of vent (around circumference). Suture cut edges together from side to side with simple interrupted sutures.
Good method if prolapse only due to atony of vent.

3. Rib cloacopexy

Replace prolapse, and insert instrument to delineate margins of cloaca. Open abdomen with ventral, midline coeliotomy. Ventral surface of urodeum usually covered with fat pad. Excise fat. Place suture round last rib. Can use nylon, dexon or wire. Pass suture material through full thickness of ventral surface of urodeum on same side as rib (craniolateral aspect). Repeat with contralateral rib. Tie sutures with sufficient tension to slightly invert the vent. Must take large bites of cloacal tissue, and penetrate lumen for good results.

If rib sutures create excess inversion of the vent, can use the caudal border of the sternum.

Having placed the rib sutures, further sutures between the cloaca and abdominal wall will help to retain the organ in place. Close body wall and skin as normal.

4. Apposition of cloaca to body wall

Ventral midline coeliotomy, locate cloaca and expose serosal surface. Make paramedian incision of serosa, and corresponding incision in peritoneal surface of

body wall.
Place 3 - 4 simple interrupted sutures on either side of the incisions, thereby apposing sub-serosal and sub-peritoneal tissues. Repeat on contralateral side.
Close abdomen and skin as normal.

5. Cloaca sutured into midline incision

Ventral midline coeliotomy. Expose cloaca. Suture through body wall, full thickness of cloaca, and opposing body wall. Close whole incision with cloaca incorporated. Close skin.

6. Transverse abdominal cloacopexy

Make a ventral transverse incision above the vent. Expose cloaca, make a transverse incision in serosa, and suture exposed muscle layer to edge of abdominal incision. Close abdomen and skin as normal. Advantage is an even distribution of tension across the replaced cloaca.

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