Dyspnoea in an Indian Ringneck Parrot

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History

C.J., a 12 months old green Indian Ringneck, sex undetermined was presented to our clinic with severe respiratory distress. The symptoms were noted by the owner to be of sudden onset after she returned to the house after work. The bird was normally housed in a cage, but was permitted access to the inside of the house during the day. Diet included mixed seeds ("Peach Face mix") and fruit. Health up to this episode had been good and trouble free.

Presentation and Initial Assessment

The bird's presenting complaint was a profound dyspnoea. Open-beaked breathing and extended neck was evident. Tail bobbing was noted to be deliberate and consistent with respiration. An absence of an audible respiratory wheeze was noted as being unusual.

The weight of the bird appeared to be light on palpation of sternum and assessment of pectoral mass. The feathers were in good condition. Apart from a typical dyspnoeic stance the bird was assessed to be free from wing or leg injury at this time.

A guarded prognosis was given to C.J.'s owner and the bird was hospitalised. A tentative diagnosis of tracheal obstruction due possibly to inhalation of a seed or husk, or an aspergilloma, was made. I was keen to rule out the possibility of pneumonia or air saculitis.

Treatment

The bird was place in a humidicrib and oxygen was supplied to the chamber. The bird was handled as little as possible in the early stages of hospitalisation. Faecal gram stains showed some degree of gram negative bacteria present. A Clearview test showed a faint line indicating either a low grade positive for chlamydiosis or perhaps cross-reaction with Gram negative bacteria shed in faecal material. The bird was subsequently given 150mg Piperacillin (0.15 ml 100 mg/ml Pipril® - Lederle) and 0.15 ml doxycycline (50mg/ml injectable Psittavet® - Vetafarm), both intramuscularly.

The bird's condition unsurprisingly did not improve and after consultation with the owner it was planned to insert an air sac catheter in order to assist respiration.

The bird was anaesthetised using isoflurane via an open mask system. The bird was restrained in right lateral recumbency and a cut down 2.5 mm endotracheal tube was inserted into the left caudal

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thoracic air sac region cranial to the last rib. The tube was secured into place using 4/0 nylon suture material.

Recovery from surgery was uneventful however immediately an improvement in the dyspnoeic symptoms were observed. The beak no longer opened for respiration and whole body movement during respiration though still apparent was lessened.

Antibiotic therapy was continued over the next 24 hours and regular inspections of the air sac tube were made. The bird still showed slight dyspnea and discomfort though the improvement compared to initial symptoms was marked.

Further Investigation

The owner was warned that the accepted period for in situ air sac catheters was about 4-5 days and further procedures may be require to establish an accurate diagnosis. On discussion with owners it was agreed that radiology may be helpful to display any hidden intra thoracic or intra abdominal pathology.

The bird was given a second general anaesthetic of isoflurane. An attempt was made to deliver through the air sac tube. However this proved difficult and the open mask delivering anaesthetic via the beak and nostrils was utilized. General anesthesia for radiology was attained though induction was somewhat slower.

Radiographic Findings

The bird was radiographed in both lateral and dorso ventral views. The procedure was performed hastily due to the concern re respiratory embarrassment and the difficulty of maintenance of anaesthesia with the air sac catheter. The dorso ventral view revealed a fracture of left coracoid bone about midway down that bone. The proximal fragment had swung medially and it was assumed that the caudal edge of that fragment was situated in close proximity to the distal trachea. It is postulated that the aetiology of this bird's dyspnea was an injury to the distal trachea inflicted by the fractured coracoid bone. The bird's skeleton was deemed to be well calcified.

This injury may have occurred after the bird, permitted free flight while owners were not at home, may have crashed into an object while flying.

Following treatments

The bird recovered uneventfully following this anaesthetic and was observed and maintained on the previous regime of antimicrobial therapy and maintenance of air sac tube.

The bird was maintained in hospital for a further 2 days. Problems developed with the air sac catheter. It was planned to attempt removal and to re assess the ability to respire unassisted. Signs of more severe dyspnea reappeared and another air sac catheterisation was performed as a short procedure.

The owners were informed of possible therapies, principally, surgery and the likely prognosis. The owners were advised to decide between attempting repair of coracoid fracture, no action (hoping for spontaneous reduction of coracoid fragments) or euthanasia. They elected to take the bird home rather than risk death during surgery, knowing the likely outcome of these actions.

The bird died at home after 3 days. The opportunity of an autopsy was not presented.

Discussion

There are a number of points of interest that this case raises.

Air Sac Catheristaion

There is great value in air sac catheterisation in such an emergency situation of acute dyspnea. It provides the veterinarian with time to evaluate the patient more thoroughly with regards to diagnostic procedures, particularly radiography. The catheterisation may be performed with a commercially available air sac catheter (e.g., Cook Veterinary Products) or may be constructed in the operating room from an endotracheal tube, urinary catheter or other medical tubing. There is a need to suture this object in place.

It is generally thought that air sac catheters are only a temporary tool in managing the dyspnoeic patient. Mitchell, Bennett and Spalding (1.) studied the effect of indwelling air sac tubes in 20 bob-white quail and concluded that 5 days was about the limit for length of time a tube should be in place. Air sacculitis was a common entity in the group of birds studied that went over a 5 day period of air sac catheterisation

Radiography

The value of radiography as a diagnostic tool in avian medicine is again emphasised. In this case the bird was initially deemed to be unlikely to have had an injury on the basis of a limited physical examination. The dyspnea may have been masking postural defects such as wing alignment etc but the stance of the bird appeared normal.

Radiography does require general anaesthesia in order to achieve desired results. This carries some risk. In this case it was an omission not to radiograph the bird during the initial placement of the air sac catheter.

Coracoid fractures

Coracoid and/or scapular fractures are not uncommonly seen by our practice in injured wild birds that are subsequently unable to fly or may fly without the ability to gain lift. It is not uncommon for the scapula and clavicular fractures to be coupled with coracoid fractures. This may not be easily discernable from a single radiograph. Multiple views are generally required to demonstrate this fact.

One assumes these occur from impact with an object during flight. In a literary search re these types of fractures the possibility of secondary injury to structures such as trachea or syrinx is not well documented.

Coracoid surgery has been described by a number of texts. MacCoy describes intramedullary pinning of the coracoid bone (2). However in this case it was postulated that if the fragment was causing or had caused injury to the distal trachea, removal of the offending bony fragment from the tracheal area may still have left the trachea kinked from the initial injury. In light of the unavailability of the body for autopsy this is mere speculation. However it was a reason for a poor prognosis given with regard to surgery

Dyspnoea – differential diagnosis

The differential diagnosis of acute dyspnea classically includes syringeal aspergilloma, infectious disease, foreign body inhalation, internal bleeding, allergy, toxin inhalation, plugged nares, diseases such as avian viral serositis, sarcocystis and anemia. (3, 4)

Lists displaying such differential diagnoses of avian dyspnea rarely mention injury or trauma to the trachea or syrinx.

References

1. Mitchell J., Bennet RA., Spalding M. Air Saculitis Associated with the Placement of an Air Breathing Tube. Proc Annu Conf Assoc Avian Vet 1999 :145-146

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