CHRONIC SALPINGITIS IN COLLARED FOREST-FALCON (MICRASTUR SEMITORQUATUS - VIEILLOT, 1817)

SALPINGITE CRÔNICA EM GAVIÃO-RELÓGIO (MICRASTUR SEMITORQUATUS - VIEILLOT, 1817)

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RESUMO
O presente artigo notifica a ocorrência de salpingite crônica em um exemplar de Micrastur semitorquatus cativo, com sete anos de idade, ocorrido no período de seis meses após a submissão de um procedimento emergencial de ovoventese. Devido a apresentação constante de apatia e dificuldade respiratória e de um aumento de volume abdominal a ave seria analisada para a realização de uma laparotomia exploratória. No início de um procedimento anestésico, durante a indução anestésica a ave veio a óbito e no exame necroscópico encontrou-se o oviduto com aumento de tamanho e com deformação anatômica e ao analisar órgão viu-se que estava repleto de conteúdo caseoso e com duas massas ovais de aspecto pútrido. O exame histopatológico revelou um quadro de metrite no terço proximal do oviduto. Apesar de não ter sido realizado uma avaliação microbiológica o quadro observado é compatível com salpingite por colibacilose ascendente. A realização de procedimentos de ovoventese deve ser restrita devido ao risco de lesões iatrogênicas que expõem o trato reprodutivo de aves fêmeas a infecções ascendentes que ofereçam risco de vida para os animais.

Palavras chave: distúrbios reprodutivos, rapinantes, Micrastur, patologia aviária

ABSTRACT
This scientific report notifies the occurrence of chronic salpingitis in a captive Micrastur semitorquatus, ten years old. Salpingitis occurred six months after an emergency procedure (ovoventese). Due to the persistent apathy, difficulty breathing and an increase in abdominal volume, the bird was clinically evaluated in order to perform an exploratory laparotomy. However, during the anesthesia induction the bird died. During necropsy it was observed that the oviduct had increase of size, characterizing an anatomical deformation. Additionally, it was observed the oviduct filled with caseous content and with two oval masses with putrid appearance. The histopathological evaluation revealed metritis in the proximal third of the oviduct. Despite not having been undertaken a microbiological evaluation, the clinic presentation is compatible with salpingitis by ascending colibacillosis. Therefore, it is important to emphasize that once decided by ovoventesis, it must be performed with full attention and care, due to the elevated risk of iatrogenic lesions that can exposes the reproductive tract of birds to ascending infections, offering life-threatening to the animals.

Keywords: reproductive disorders, birds of prey, Micrastur, avian pathology

INTRODUCTION

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**Micrastur semitorquatus** (Ciconiiformes Order: Falconidae family), commonly known as Collared forest-falcon (*Gavião relógio* in Brazil). It is the largest representative of *Micrastur* genus, inhabiting dense forest areas, priority being a predator of large birds like curassows, guan, nhambus, toucans, magpies and even owls; it may also hunts squirrels, bats, snakes and lizards, catching its prey in the branches of trees and also on the ground (1,2). It is a bird not yet classified as threatened by the Red List of Threatened Animals Extinction, because it is found in almost all of America; however, the population is declining due to the degradation of forest areas (3).

Reproductive problems are well described in domestic birds; but, they are uncommon in wild birds, without susceptibility related to the order, family or species; however, there is a correlation with senility (4). Salpingitis, or inflammation of the uterine tubes, is a common result of bacterial infection. It is usually followed by endometritis, metritis or pyometra by ascending infection. In this case, macroscopically, it is possible to observe hyperemia, mucosal thickening and small amount of luminal exudate. Microscopically it is possible to detect inflammation varying from mild to chronic. In some acute cases, there is loss of cilia and epithelial desquamation of mucosal folds; however, in chronic conditions, there are the involvement of other mucosa parts and, sometimes, even the muscle layer (5).

The main causes of salpingitis in birds are mostly by systemic ascendant infections, occurring occasionally secondary to dystocia, obstruction or impaction, causing death due to septicemia, peritonitis or rupture of the oviduct (6).

**CASE REPORT**

An female captive exemplary of *Micrastur semitorquatus*, 10 years old, 900 g, from the Centro de Recuperacion y Recreates of Güira Oga Birds (Puerto Iguazu-Argentina) was subjected to radiologic evaluation. Clinical evaluation showed breathing difficulty (hyperventilation) and crackles sounds by stressful situations and during induction of exercise. Radiographic images showed two radiodense celomic masses (Figure 1). In addition to the celomic masses, it was also observed loss of contrast with increase of radiopacity in the intra-celomic fluid, opacification of radiopacity in fluid of air sacs and fluid luminal in intestines and ventricle.

Based in these findings, it was decided to perform an exploratory laparotomy. Anesthetic induction procedure was carried out with isoflurane 5% (7), however, few minutes after anesthesia, the bird developed apnea, forcing us to stop immediately the anesthetic supply. The bird was kept only with oxygen supply and doxapram (IM via) was used (7). Unfortunately, the bird did not respond to our protocol, dying by cardiac arrest.
exudate, adhesion and visceral displacement due to the presence of two oval mass occupying most of the abdominal cavity of the bird. The anatomical evaluation allowed the observation of intestines dorsally displaced to right side, ventricle occupied a more dorsal position and liver and heart were cranially displaced.

There were visceral adherence, initially making difficult the dissection; however, it was possible to set that the masses found were originated in the oviduct. Despite the compression and adhesion to other viscera, macroscopically there were no changes; but, the oviduct presented its proximal third (the region corresponding to magnum) completely changed (Figure 2B). By opening the oviduct it was visualized edema, congestion and the lumen filled with mucopurulent content with fetid odor (hydrogen sulfide-like). Within each mass, there was a caseous body (oval) with approximately 4 cm long and 2.5 cm wide (Figure 2C and 2D). Ovarian was congested and flaccid, while the uterus was only congested.

Microscopically, we observed the magnum region with intense edema in endometrium, inflammatory infiltrate and area of oviduct lumen filled with an amorphous mass of cell in degeneration, as well as inflammatory infiltration of heterophilic character (Figure 3). Isthmus and uterus were congested. Macroscopically and microscopically, the findings pointed out to a clinical manifestation compatible with salpingitis.

Reviewing the bird history, it was previously reported that in the last breeding season the bird presented dystocia and, for this reason, it was performed ovocentesis (aspiration of internal content and manual removal of the shell fragments).

**DISCUSSION AND CONCLUSION**

Our case reports a female captive exemplary of *Micrastur semitorquatus* showing breathing difficulty (hyperventilation) and crackles sounds by stressful situations and during induction of exercise. Radiographic images showed two radiodense celomic masses. In addition to the celomic masses, it was also observed loss of contrast with increase of radiopacity in the intra-celomic fluid, opacification of radiopacity in fluid of air sacs and fluid luminal in intestines and ventricle.

The natural occurrence of avian salpingitis is usually associated with ectopic ovulation or peritonitis by egg, typically being an extension of the inflammatory reaction of the coelomic cavity. In cases in which the bird does not die immediately salpingitis is related to the occurrence of obstruction of the oviduct, usually associated with the presence of retained eggs (4). The oviduct obstruction combined with suppurative inflammation results in piossalpingitis,
characterized by oviduct dilation, and the presence of purulent content (5), as seen in this case. In general, simple salpingitis cases, without obstruction, are uncommon (4).

Cases of egg retention should first be treated by mechanical removal and / or by pharmacological induction, according to the case (8); if no satisfactory response, hysterectomy is the technique of choice for egg removal (9). The ovocentese is a method that can be used when these procedures are not possible or recommended (10). However, the use of it can predisposes the occurrence of immediate complications, such as rupture of the oviduct and peritonitis by yolk, as well as late ectopic egg and metritis by eggshell break (6).

One of the biological agents frequent involved in the setting of ovarian-uterine infections in birds is Escherichia coli (11). Salpingitis by E. coli is characterized by the formation of caseous mass composed by heterophile and bacteria in the oviduct, progressively increases its size and may it persists for months. Birds presenting this clinical complication generally do not live more than six months; surviving cases are accompanied by reproductive problems due to follicular degeneration (12).

Due to the previous historic of ovocentesis and by the alterations observed during the necropsy, we assume that it was a clinical case of salpingitis. It possibly occurred due to iatrogenic lesions during the procedure. In addition, the inflammatory and caseous characteristics are compatible with chronic ascending salpingitis by E. coli, despite not having been conducted microbiological examination.

The realization of ovocentesis should be restricted to some very specific situations, such as small or micro sized birds whose use of drugs, mechanical induction or hysterotomy are anatomically impossible, at great risk of deleterious consequences for the birds.

Due to the clinical history of the bird and the changes found at post-mortem exam, we concluded that our bird patient (Micrastur semitorquatus) developed an iatrogenic chronic salpingitis, due to an ovocentesis procedure.

REFERENCES


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