

**Ventral abdominal hernia in a common Myna (*Acridotheres tristis*)
- a case report**

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ABSTRACT

Hernias are often related to breeding, hormonal influences, or other reasons for space-occupying coelomic masses. This is a difficult problem which is more common in obese female birds. A 2-year-old female common Myna (*Acridotheres tristis*) was presented to the Veterinary teaching hospital, School of Veterinary Medicine, Shiraz University with abdominal swelling and lethargy because of a cage fall from 2 meters six days earlier. After diagnosis of the ventral abdominal hernia, under local anesthesia the contents of the hernial sac were reduced into the abdominal cavity and the linea alba tear was sutured by a simple continuous suture pattern using Vicryl no. 5/0 in two layers. The follow up study for two months revealed no complications.

Key words: abdominal hernia, common Myna, linea alba

Introduction

Abdominal hernias are found classically in female members of the Psittacine species, especially the budgerigar, and may be associated with egg laying and weakened abdominal musculature (HARISSON and HARISSON, 1998). The entire abdominal musculature is gradually stretched apart along the line of the linea alba. Herniation may also be related to trauma, an abdominal mass, egg binding, or straining and may be clinically suggestive of malnutrition or endocrine imbalances. The weight of the abdominal viscera causes marked enlargement and descent of all structures so that the swelling becomes pendulant (COLES, 1997). On occasions, herniation occurs secondary to abdominal lipoma, cystic structures, neoplasia, or other space-occupying masses (MacWHIRTER, 1994). It should be considered that if surgery can be avoided by dietary change and weight loss, this is preferable (FORBES, 2002). In this paper a ventral abdominal hernia in a Common Myna due to linea alba tear is reported.

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Case description

A 2-year-old female common Myna (*Acridotheres tristis*) presented with abdominal swelling and lethargy. The history presented by the owner revealed that her cage fell from a height of 2 meters six days before admission. No serious problems were observed thereafter. A small abdominal swelling and reduced appetite was noticed after 2 days following the accident. The swelling became larger and larger over 6 days. On physical examination, the bird looked emaciated and had a reducible ventral abdominal palpable mass extending from the keel to the pubic bones (Fig. 1). After diagnosis of the ventral abdominal hernia, the bird was prepared for the operation. Presurgical starvation was initiated only for the last 30 minute. The bird was restrained in dorsal recumbence and the head raised about 30°. The wings were reflected dorsally while the legs were restrained and abducted in caudal direction. Feathers on the abdominal area and the hernia sac were removed. The skin was prepared for an aseptic operation using Povidone iodine solution and alcohol. After local anesthesia by lidocaine 2% (2 mg/kg) without adrenaline and dilution of stock concentration, the skin of the abdominal hernia sac was initially incised over the linea alba by a fine scissor carefully to prevent iatrogenic visceral and underlying air sac damage. The skin was the only hernia sac structure holding the content of abdominal organs as the hernia sac. The abdominal wall was ripped off through the aponeurosis of the abdominal musculature (external and internal abdominal oblique and transverses abdominis muscles) known as the linea alba at the time of accident. The ileum and cecum were the most participant contents of the hernial sac with no adhesion or other complications. All contents were returned back into the abdominal cavity. The hernia ring (the line of linea alba) was sutured by a simple continuous suture pattern using No. 5/0 Vicryl. Then the skin was sutured in a similar pattern using the same suture material (Fig. 2 and 3).



Fig. 1. Hernial sac. The bird is restrained in dorsal recumbency, before surgery



Fig. 2. Closure of the skin, after trimming of the hernial sac



Fig. 3. The bird in dorsal recumbency, after surgery.



Fig. 4. Two months after surgery.

Postoperative management consisted of diet modification and decreased exercise and activity for 2 weeks after surgery. Enrofloxacin 10%, 10 mg/kg (Lortryl, Damloran Razak, Iran) was administered orally for three days postoperative. The follow up study for two months revealed sound recovery with no complications (Fig. 4).

Discussion

Abdominal hernia is encountered most commonly in obese female psittacines, especially cockatoos and budgerigars (FORBES, 2002; COLES, 1997; HARRISON and HARRISON, 1998). They are often related to breeding, hormonal influences, or other reasons for space-occupying coelomic masses, such as tumors. Abdominal hernia in a Northern Pintail (*Anas acuta*) (CHIBA et al., 2007) and in a cockatiel associated with formation of a urate concretion (MARTIN, 1986) have been reported. Ventral abdominal hernia associated with hepatic lipidosis in a Red Lory (*Eos bornea*) has also been reported (LANGOLIS and JONES, 2001). High-energy diets lead to obesity and also serve as a drive to egg production (increasing liver size and follicular activity respectively) (FORBES, 2002). Weakness of the abdominal muscles by egg laying and infiltration of fat can cause gradual stretching apart of the whole abdominal musculature along the linea alba (COLES, 1997; HARRISON and HARRISON, 1998). Despite the described causes, these traumas

mentioned are very rare, although this is one of the most common causes in mammalian hernias.

Since quite large hematomas and lipomas can occur in the same region, diagnosis should be confirmed with radiography or possibly ultrasound (COLES, 1997). But in this case, the obvious history (falling of the cage from a height of 2 meters and swelling of the ventral abdomen) confirmed the hernia in this traumatized bird.

Avian abdominal hernia is dissimilar to mammalian hernia. There is no specific hernia ring, but instead there is a thinning and gradual separation of muscle fibers, therefore surgery to pull the sides of the deficit together is not possible and salpingohysterectomy at the time of hernia repair is recommended (FORBES, 2002) but, because of traumatic origin and rupture of the abdominal wall muscles in this case, the hernial ring (the linea alba) was apposed and sutured with no problem. Common radiographic findings are loss of the abdominal line integrity, egg binding, or straining and may be clinically suggestive of malnutrition or endocrine imbalances. Contrast studies may be required to determine if viscera are involved in the herniation (McMILAN, 1983; SILVERMAN, 1980). Minimizing the area of feather removal, while still enabling intraoperative control of sepsis, is beneficial in the control of intraoperative or postoperative hypothermia (FORBES, 2002). So only feathers 2 cm around the herniation area were removed. Moreover, heat from a light was used to control hypothermia. If surgery can be avoided by dietary change and weight loss, this can be preferable (FORBES, 2002; MacWHIRTER, 1994), but lethargy and enlarging of the hernial sac over 6 days persuaded the owner to take advise for surgical treatment. Presurgical starvation was limited only to 30 minute. Any longer period of starvation may be detrimental in view of the risk of a negative energy balance. The bird was not intubated because of the increased risk of blockage of the small-diameter tubes by respiratory secretions. During any celiotomy procedure, the bird's head should be raised at 30-40° to prevent any surgical irrigation fluid from entering the lung field. Postsurgical care greatly affects the outcome of the procedure. Prevention of self-trauma, a rapid recovery, sufficient analgesia, fluid, thermal and nutritional support, as well as the minimization of stress, are vital (MacWHIRTER, 1994).

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SAŽETAK

Kile su često povezane s uzgajanjem, hormonalnim utjecajem ili drugim razlozima nedostatka prostora u trbušnoj šupljini. One predstavljaju sve teži problem u ugojenih ptica. Ženka smeđe mine (*Acridotheres tristis*) u dobi od dvije godine primljena je na kliniku Fakulteta veterinarske medicine, Sveučilišta Shiraz u Iranu jer je imala oteklinu u području trbuha i bila je potištena nakon pada s visine od dva metra šest dana prije primitka na kliniku. Nakon dijagnoze trbušne kile sadržaj hernijalne vreće bio je pod lokalnom anestezijom vraćen u trbušnu šupljinu. Poderotina u području bijele linije bila je sašivena jednostavnim neprekidnim dvoslojnim šavom upotrebom Vicryl-a 5/0. Nisu ustanovljene komplikacije tijekom dva mjeseca promatranja nakon operacije.

Ključne riječi: trbušna kila, smeđa mina, linea alba
