SURGICAL DEBRIDMENT OF ADHERENCES AND PHYSIOTHERAPY IN A SPECIMEN OF WHITE STORK (*CICONIA CICONIA*)

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Abstract

A white Stork adult specimen of undetermined sex was admitted to hospital due to trauma. Physical and radiological examination showed profusely bleeding affecting the patagial area and dislocation of the elbow of the left wing. Procedures of emergency care and stabilization according to protocol were carried out as well as reduction of the dislocated joint. Pharmacological therapy was administered and wing was immobilized. After a week of admission, physiotherapy treatment was established based on thermotherapy, cryotherapy and ultrasound to reduce inflammation and promote repair of capsular and ligamentous elements. The emphysematous area of ventral surface of the elbow was released by periodic withdrawals and wound was cleaned daily. The biceps tendon showed fibrosis and adherences of extensor tendons of radius and ulna. To avoid progressive decline of extension, massage and passive kinetic therapy was prescribed until surgery for debridement and release of adhesions. In the immediate postoperative, stretching and lasertherapy were established. Treatment was successful to achieve full ROM and normalization of dermis, subcutaneous and appendages. After musculation exercises to improve enhancement the bird was released.

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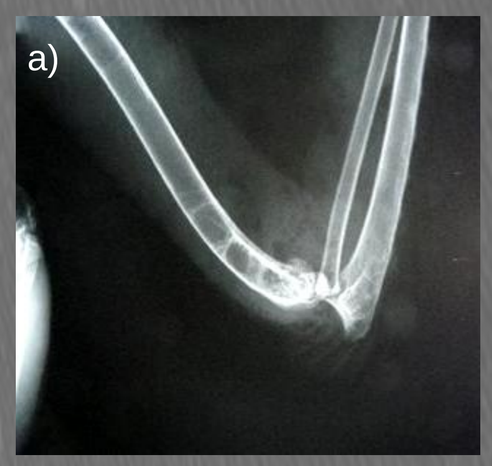


a) Detail of the white stork (*Ciconia ciconia*) radiography showing the dislocation of the left elbow.

1 Introduction

The present report describes the combined application of treatments of veterinary medicine and physiotherapy in a wild bird with dislocated elbow and skin and muscle tear caused by severe trauma.

2 Material and Methods

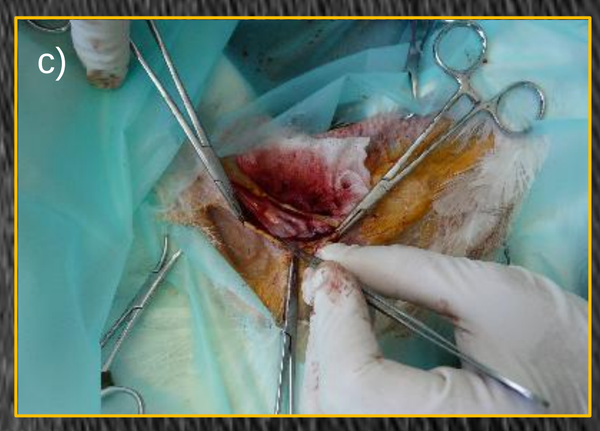
The stabilization of the patient began with the application of IV rehydration (2% PV RLS) for three days, together with burprenorphine IM 0.03 mg/kg s.i.d. meloxican 0.3 mg/kg IM s.i.d. marbofloxacin IM 15 mg/kg s.i.d. To reduce the dislocation of the elbow general anaesthesia with isoflorane via a mask was careid out. After manual reduction, a bandage on eight was kept for two weeks. Wound was washed daily with chlorhexidine 2% saline and nitrofurane ointment. After 15 days retraction was observed in the elastic ligament, fibrosis propatagial and exuberant scars that hindered the full extent of the wing as well as fistulization in elbow ventral area.

Surgical treatment to debride the scar tissue and adhesions was conducted.

- The physiotherapy protocol run over three days per week maximum 30 min per day.
- Five pre-surgical physiotherapy sessions.
- Alternative hot and cold pack over selected area 5-10 minutes.
- Passive cinesitheraphy: global mobilization of upper limb to the firm limit, 5 minutes.
- Manual treatment with drainage massage, 2-3 minutes and stretching 5-10 minutes.
- Ultrasound Physioson-Expert Physiomed TM therapy longitudinal application 1 MHz 0.1W/cm^2 1:10pulses 5 min.

Ten postsurgical physiotherapy sessions:

- Hot pack to 42ºC (107.6ºF) over selected area for 5-10 minutes and scar massage for 3 minutes previous to stretching of the upper limb for 5-10 minutes
- Lasertherapy Las-Expert Physiomed TM unit infrared diode with length wave of 785 and power energy of 700 mW continuos wave-CW in “shower” application 785 nm 10J/cm^2 3min 20sc



b) Comparative aspect of the wings, showing the retraction of the left elastic ligament and propatagial fibrosis. c) Surgical debridation of the left elbow adhesions .

3 Results

This case report demonstrates a reduction in recovery time from injury, due to the early incorporation of techniques of physiotherapy before and after surgical treatments.

d) Goniometry evaluation of the elbow joint. e) Final ROM achieved with the treatment.

4 Discussion

The use of combined techniques of physiotherapy as coadjuvant to veterinary procedures allows the improvement of full ROM and avoided the development of fibrotic tissue, calcifications and tie downs.

f) White Stork (*Ciconia ciconia*) specimen released after the treatement.

5 Citation Index

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