



## PREVALENCE AND MANAGEMENT OF SOME SURGICAL AFFECTION IN CATTLE AND BUFFALOES AT QENA GOVERNORATE IN FIELD SITUATION

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### ABSTRACT

*Surgical affections in cattle and buffaloes are commonly encountered in different areas all over the world. The aim of the present study was to state the prevalence and different management of some surgical affections in cattle and buffaloes. The study was carried out on 406 animals suffering from different surgical affection recorded at different locations at Qena governorate. All cases were subjected to full study including case history and clinical examination. In addition, medical and/or surgical treatment was applied according to the routine manoeuvres in the available literatures. Results revealed that 11 groups of surgical affections were recorded. 72.66% of cases can be medically and/or surgically corrected. 7.88% of cases were referred to specialized veterinary hospital and 16.5% were left without treatment. A small number of cases (2.96%) were culled and directed to the slaughter house.*

**Keywords:** Prevalence, Surgical, Affections, Cattle, Buffaloes, Qena.

### Contribution/ Originality

This study contributes by way of investigation of the prevalence and different management of some surgical affection in cattle and buffaloes. This study documents that there are 11 groups of surgical affections in cattle and buffaloes and most of these affections (72.66%) can be medically and/or surgically corrected.

## 1. INTRODUCTION

Surgical affections in ruminants are commonly encountered and reported in different areas all over the world. The economic impacts and financial losses from culling as well as the non profitable outcomes of most surgical treatment trials are warranted. Surgical affections have several deleterious effects, such as lowering the productivity and reproductivity of affected animals [1-3]. Generally, surgical affections include; abscesses, hernias, haematoma, bursitis, cysts, tumors, fractures, salivary gland affections, ocular affections, udder and teat affections, tail affections, limbs affections, horn affections, skin affections, digestive system affections and urogenital affections [3-5].

Most of affections can be corrected by medical and/or surgical intervention in clinical veterinary practice. The importance of surgery is to save the life of the animal, to prolong its life, to hasten recovery from an injury, for elimination of a disease process, for cosmetic reasons, for correcting deformities or malformations, for the replacement of a part by an artificial one, for economic reasons, to make the animal socially acceptable, to aid in diagnosis of a suspected pathological process and for investigation in research work [6, 7]. The purpose of the present study is to state the prevalence of surgical affections in cattle and buffaloes, and to investigate the possible treatment options in field situation.

## 2. MATERIALS AND METHODS

### 2.1. Animals

The present study was carried out on four hundred six (406) animals; (cattle = 242, buffaloes = 164). Cattle were cross breeds and buffaloes were water buffaloes. All cases were collected from different locations at Qena governorate and were examined at the village hospitals and at the owner's house in the period between 1<sup>st</sup> of April 2012 and 1<sup>st</sup> of January 2015.

### 2.2. Case History and Clinical Examination

History of each case was taken from the animal's owners. Age, sex, species, time of onset of the disease, previous medication and health status were recorded. Appetite, nature of excretion and secretions, locomotion disorders, swellings and expressions of pain and other alignments were recorded. Each case was closely inspected visually for detection of any structural or functional disorder in the affected region. The affected parts and/or lesions were manipulated to detect their nature, consistency and tenderness. Exploratory puncture was done to reveal the physical characters of the existence fluids or contents of the examined lesions. Physical examination of the animals was performed including pulse, respiration and temperature to determine health status of animal. The diagnosis of each case was established and recorded.

### 2.3. Prevalence of Affections

The number of affected animals regarding the types of the affections and the species of animals were recorded. Also the percentage of each affection was registered.

### 2.4. Medical and/or Surgical Management

Medical and/or surgical management of different affections was applied according to the recorded routine maneuvers in the available literatures [8-22]. Some operations were performed in standing position and others in lateral right or left recumbency and in rare cases dorsal or ventral recumbency. Xylazine hydrochloride (Xylaject, Adwia Company El Obour city, Cairo, Egypt) was administered in a dose rate of 0.05 – 0.17 mg/kg body weight through intramuscular route. A variable amounts of 2% lignocaine hydrochloride (Depocaine, EL Debaiky comp, Cairo, Egypt) were infiltrated at the seat of operation according to its type [23].

**Table-1.** The types and the number of the recorded surgical affections and the percentage of prevalence in cattle and buffaloes

| No    | Affection                               | Subdivision                      | Cattle |      | Buffaloes |       | Subtotal |       | Total |       |
|-------|---|----------------------------------|--------|------|-----------|-------|----------|-------|-------|-------|
|       |   |                                  | No     | %    | No        | %     | No       | %     | No    | %     |
| 1     | Abscesses                               | --                               | 36     | 8.86 | 9         | 2.22  | 45       | 11.08 | 45    | 11.08 |
| 2     | Hernias                                 | Umbilical H.                     | 5      | 1.23 | 2         | 0.49  | 7        | 1.72  | 7     | 1.72  |
| 3     | Heatomas                                | --                               | 6      | 1.48 | --        | --    | 6        | 1.48  | 6     | 1.48  |
| 4     | Bursitis                                | Presternal b.                    | 16     | 3.94 | 7         | 1.72  | 23       | 5.67  | 39    | 9.61  |
|       |   | Olecranon b.                     | --     | --   | 10        | 2.46  | 10       | 2.46  |       |       |
|       |   | Precarpal b.                     | 6      | 1.48 | --        | --    | 6        | 1.48  |       |       |
| 5     | Cysts                                   | Branchial c.                     | 6      | 1.48 | 2         | 0.49  | 8        | 1.97  | 10    | 2.46  |
|       |   | Thyroid c.                       | 2      | 0.49 | --        | --    | 2        | 0.49  |       |       |
| 6     | Urogenital system                       | O. urolithiasis                  | 10     | 2.46 | 4         | 0.99  | 14       | 3.45  | 23    | 5.67  |
|       |   | Penile dilation                  | 5      | 1.23 | --        | --    | 5        | 1.23  |       |       |
|       |   | R.V. Fistula                     | 4      | 0.99 | --        | --    | 4        | 0.99  |       |       |
| 7     | Ocular affections                       | 3 <sup>rd</sup> eyelid abscesses | 4      | 0.99 | --        | --    | 4        | 0.99  | 75    | 18.47 |
|       |   | Conjunctivitis                   | 3      | 0.74 | 9         | 2.22  | 12       | 2.96  |       |       |
|       |   | P. keratitis                     | 1      | 0.25 | 1         | 0.25  | 2        | 0.49  |       |       |
|       |   | U. keratitis                     | 2      | 0.49 | 1         | 0.25  | 3        | 0.74  |       |       |
|       |   | Hyphema                          | 6      | 1.48 | --        | --    | 6        | 1.48  |       |       |
|       |   | Cataracts                        | 8      | 1.97 | --        | --    | 8        | 1.97  |       |       |
|       |   | Heterochromiiridis               | --     | --   | 37        | 9.11  | 37       | 9.11  |       |       |
|       |   | exophthalmia                     | 3      | 0.74 | --        | --    | 3        | 0.74  |       |       |
| 8     | Horn affections                         | Fracture                         | 4      | 0.99 | 3         | 0.74  | 7        | 1.72  | 89    | 21.92 |
|       |   | Avulsion                         | 4      | 0.99 | 7         | 1.72  | 11       | 2.71  |       |       |
|       |   | Overgrowth                       | 21     | 5.17 | 50        | 12.32 | 71       | 17.49 |       |       |
| 9     | Claw affections                         | D. dermatitis                    | 8      | 1.97 | --        | --    | 8        | 1.97  | 70    | 17.23 |
|       |   | Sole ulcer                       | 12     | 2.96 | 3         | 0.74  | 15       | 3.69  |       |       |
|       |   | Sole puncture                    | 5      | 1.23 | --        | --    | 5        | 1.23  |       |       |
|       |   | Overgrowth                       | 34     | 8.37 | 8         | 1.97  | 42       | 10.34 |       |       |
| 10    | Limb affections                         | Knuckling over                   | 17     | 4.19 | --        | --    | 17       | 4.19  | 38    | 9.36  |
|       |   | Arthrogryposis                   | 3      | 0.74 | --        | --    | 3        | 0.74  |       |       |
|       |   | U.F. of patella                  | 7      | 1.72 | 11        | 2.71  | 18       | 4.33  |       |       |
| 11    | Congenital anomalies at the head region | Meningocele                      | 2      | 0.49 | --        | --    | 2        | 0.49  | 4     | 0.10  |
|       |   | Achondroplasia                   | 2      | 0.49 | --        | --    | 2        | 0.49  |       |       |
| Total |   |                                  | 242    | 59.6 | 164       | 40.4  | 406      | 100   | 406   | 100   |

The management of the recorded cases in field situation was classified into four groups:

Group A: Cases corrected by medical and/or simple surgical treatment.

Group B: Cases referred to veterinary hospital for further investigation and treatment.

Group C: Cases left without treatment.

Group D: Cases culled from the herd and directed to the slaughter house.

### 3. RESULTS

The types and the number of the recorded surgical affections and the percentage of prevalence in cattle and buffaloes were recorded in table 1 and figures 1-14. The management of the recorded surgical affection in field situation was illustrated in table 2.

**Table-2.** Illustrates the management of the recorded surgical affection

| No    | Affection                               | Subdivision                      | A     | B    | C     | D    | Total | Total |
|-------|---|----------------------------------|-------|------|-------|------|-------|-------|
| 1     | Abscesses                               | --                               | 43    | 2    | --    | --   | 45    | 45    |
| 2     | Hernias                                 | Umbilical H.                     | 6     | 1    | --    | --   | 7     | 7     |
| 3     | Heamatomas                              | --                               | 5     | 1    | --    | --   | 6     | 6     |
| 4     | Bursitis                                | Presternal b.                    | 23    | --   | --    | --   | 23    | 39    |
|       |   | Olecranon b.                     | 10    | --   | --    | --   | 10    |       |
|       |   | Precarpal b.                     | 4     | 2    | --    | --   | 6     |       |
| 5     | Cysts                                   | Branchial c.                     | 6     | 2    | --    | --   | 8     | 10    |
|       |   | Thyroid c.                       | 1     | --   | 1     | --   | 2     |       |
| 6     | Urogenital system                       | O. urolithiasis                  | 10    | 1    | --    | 3    | 14    | 23    |
|       |   | Penile dilation                  | 3     | 2    | --    | --   | 5     |       |
|       |   | R.V. Fistula                     | 4     | --   | --    | --   | 4     |       |
| 7     | Ocular affections                       | 3 <sup>rd</sup> eyelid abscesses | 4     | --   | --    | --   | 4     | 75    |
|       |   | Conjunctivitis                   | 12    | --   | --    | --   | 12    |       |
|       |   | P. keratitis                     | --    | --   | 2     | --   | 2     |       |
|       |   | U. keratitis                     | 1     | 2    | --    | --   | 3     |       |
|       |   | Hyphema                          | 4     | --   | 2     | --   | 6     |       |
|       |   | Cataracts                        | --    | 3    | 3     | 2    | 8     |       |
|       |   | Heterochromiairidis              | --    | --   | 37    | --   | 37    |       |
| 8     | Horn affections                         | Fracture                         | 6     | 1    | --    | --   | 7     | 89    |
|       |   | Avulsion                         | 10    | --   | 1     | --   | 11    |       |
|       |   | Overgrowth                       | 61    | --   | 10    | --   | 71    |       |
| 9     | Claw affections                         | D. dermatitis                    | 7     | 1    | --    | --   | 8     | 70    |
|       |   | Sole ulcer                       | 13    | 2    | --    | --   | 15    |       |
|       |   | Sole puncture                    | 5     | --   | --    | --   | 5     |       |
|       |   | Overgrowth                       | 32    | --   | 10    | --   | 42    |       |
| 10    | Limb affections                         | Knuckling over                   | 5     | 8    | 1     | 3    | 17    | 38    |
|       |   | Arthrogryposis                   | --    | 1    | --    | 2    | 3     |       |
|       |   | U.F. of patella                  | 18    | --   | --    | --   | 18    |       |
| 11    | Congenital anomalies at the head region | Meningocele                      | 1     | 1    | --    | --   | 2     | 4     |
|       |   | Achondroplasia                   | --    | --   | --    | 2    | 2     |       |
| Total |   |                                  | 295   | 32   | 67    | 12   | 406   | 406   |
| %     |   |                                  | 72.66 | 7.88 | 16.50 | 2.96 | 100   | 100   |

### 4. DISCUSSION

Surgical affections of cattle and buffaloes were variable at Qena governorate. 11 groups of surgical affections were recorded including; abscesses, hernias, hematomas, bursitis, cysts, urogenital system affections, ocular affections, horn affections, claw affections limb affections and

congenital anomalies of the head region. The most prevalent affections were horn affections (21.92%) which include horn fracture, avulsion and overgrowth [14]. Ocular affections occurred in the second place after horn affections (18.47%) and include 3<sup>rd</sup> eyelid abscesses, conjunctivitis, keratitis, hyphemas, cataracts, heterochromiairides and exophthalmia [23]. The high percentage of ocular affections was due to the large number of buffaloes affected with heterochromiairidis [24]. Also the high percentage of horn affections was due to the large number of cattle and buffaloes suffering from horn overgrowth [14]. Claw affections occupied the third place after ocular and horn affections (17.23%) and include digital dermatitis, sole ulcer and puncture and claw overgrowth. The high percentage of claw affections was attributed to the large number of cattle and buffaloes affected with claw overgrowth [25]. Abscesses and bursitis were recorded in large number of animals (11.08% and 9.61% respectively) [5, 8]. The least recorded surgical affections in cattle and buffaloes was the congenital anomalies at the head region (0.10%), hematomas (1.48%) and hernias (1.72) [3].

Fortunately, most of the surgical affections in cattle and buffaloes can be corrected medically and/or surgically with satisfactory results (72.66%). Many affections doesn't need any medical or surgical interferences such as heterochromiairidis (16.5%) while other affections such as claw and horn overgrowth can be corrected easily in field situation without any suspected complications.

A little number of surgical affections necessitates special surgical interferences in advanced clinics (7.88%) such as bilateral cases of cataracts while unilateral cases can be neglected as the condition doesn't affect the general health of the animal [26]. Culling was recommended in small number of animals to salvage meat for human consumption.



**Fig-1.** A huge abscess at the thigh region in a 9 months old calf.



**Fig-2.** Umbilical hernia in a one year old heifer.



**Fig-3.** Large size rounded haematoma at the neck region of a 7 months old calf.



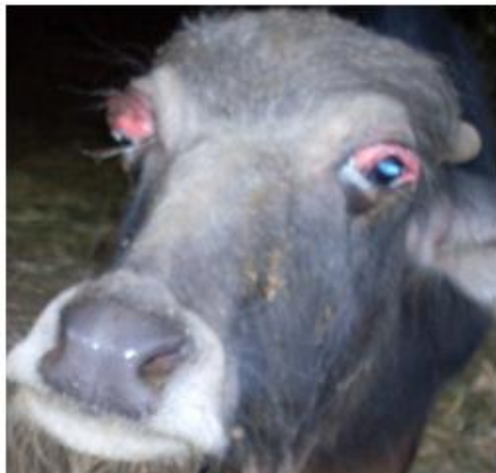
**Fig-4.** Pre-sternal bursitis in a one year old buffalo calf. Note the yellow exudates of the aspirate.



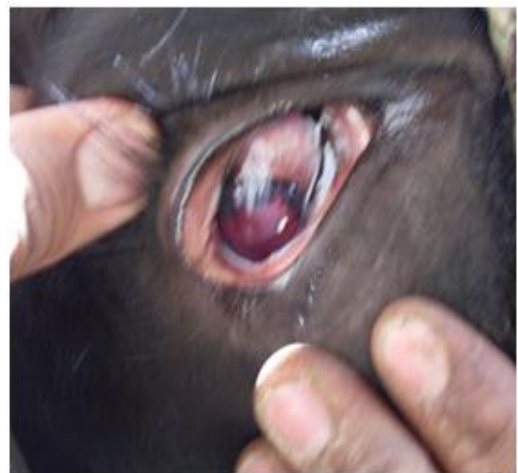
**Fig-5.** Branchial cyst in a one year old cow (arrow).



**Fig-6.** Obstructive urolithiasis with rupture of the urethra (frog belly) in a 2 years old bull.



**Fig-7.** Parenchymatous conjunctivitis in a 2 years old buffalo.



**Fig-8.** Hyphaema in the anterior chamber of eyeball of a one year old bull.



**Fig-9.** Congenital bilateral cataracts in a 4 months old calf.



**Fig-10.** Bilateral heterochromia iridis in a 7 years old buffalo.



**Fig-11.** Meningocele in a 15 days old calf. Note the nature of contents during exploratory puncture.



**Fig-12.** Digital dermatitis in a 3 years old cow.



**Fig-13.** Scissor claw with curved medial claw of a 6 years buffalo.



**Fig-14.** Overgrowth of the horn in a 10 years old buffalo.

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