SURGICAL TREATMENT OF UPWARD PATELLAR FIXATION OF IN BUFFALOES OF BASRAH PROVINCE

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ABSTRACT

A study was conducted on 65 clinical cases of upward fixation of patella of she buffaloes treated during the last years(2000 - 2006). The occurrence of the disease with respect to species and season were documented

Buffaloes suffering from jerky movement during flexion to complete immobilization of the joint. Since the animal fixes its(limb in extension) while the patella glides up over the trochela. All Buffaloes were affected with upward fixation of the patella in one back leg.

After medial patellar desmotomy, buffaloes become health sound and returned in stride normal.

The purpose of this study was to treat and report for the first in literature of upward fixation in buffaloes in Basra provinces.

Alternatively tying the animals to a wheel of a bullock cart also resulted in good control of animals under field conditions.

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INTRODUCTION

Upward fixation of patella is still a most common surgical problem in Iraq cattle and buffaloes. The disease is responsible for considerable economic loss as the lameness affects the working ability of bullocks and also movement of cows and buffaloes. Stall feeding is not a common practice in Iraq and the animals are taken long distances for grazing. Hence the animals suffering from problem of upward fixation of patella of both the legs become a burden to the farmer. Many times treatment is not provided in time due to lack of skilled personnel for surgical treatment.

The stifle joint consist of two separate joints, the femoropatellar and femorotibial joint ,is formed between the trochela of the femur and the articular surface of the patella .

The trochela is bounded by two oblique ridges ,medial and lateral. The medial ridge is longer and wider , especially at its proximate part over which the fibrocartilage glides (1).

The patella is a large seasmoid bone which develops in the tendon of quadriceps femurs muscle .the patellar ligament, medial, middle and lateral are the continuations of fibrous bands of quadriceps muscle to the cranial tibia tuberoity (2).

The middle patellae ligament is thick and strong as compared to other two ligaments. the medial patellar ligament is widely separated from the middle patellar ligament at

both the ends. The lateral patellar ligament is flat and lies close to the middle ligament at both the extremities (3) .

Laxity of the patellar ligaments predisposes the animal to upward fixation of the patella .relaxed ligaments allow the patella to glide freely on the articular surface of the trochela. If the limb is overextended due to muscular cramps or a confirmatory defect . the patellar apex may get jammed between the trochlear ridge .this would lead to complete extension of the limb in bovine (4).

There is no medial patellar in camels .instead ,a tendinous band of fibrous tissues , which covers the muscles of the medial aspect of the high condenses in this area to insert into the cranial tubersity (5).

Occupational trauma ,age of animal or climatic conditions act only as secondary factors to aggravate the signs following development of the condition . Hence signs are more sever during winter & summer and in draught purpose animals . the condition my be unilateral or bilateral . in most cases , one of the limbs is affected more of the other . therefore ,it is advisable to operate on both the limbs even if only one limb is different at the time of surgery (7) .

The clinical signs in bovines, the posture of the animal are normal while at rest but every attempt to move the animal backwards is resisted. When allowed to leave the stall, the animal either shows jerky flexions during movement of limp with flexed pastern. The affected limb is brought forward with a jerky flexion on every step. These signs disappear after a few steps but reappear after prolonged rest. Some animal keep the limb in extension during progression, raise the hind quarters on the affected side move by swinging the limb outward and forward (8).

In some animal symptoms are not severe, due to complete extension of the limbs that they are unable even to move. The purpose of this study is to report for the first time in literature ten cases of upward fixation in buffaloes and to describe the treatment of these cases (9)

MATERIALS AND METHODS

During the period from August - 2003 to April 2004 several buffaloes were examined in the private clinic. The animals were brought to clinic by owners for treatment, but these buffaloes are affected from upward fixation of the patella in one hind limb.

Buffaloes were injected with aseptic summery, 2 % solution of lidocaine in the epidural space between the first and 2nd coccygeal vertebrae using supernal needle (20 gage 5 cm length) after dilution with normal saline in to 5ml volume (6).

In all treated Buffaloes we used the medial patellar desmotomy technique, to correct upward fixation of the patella. Because the area is largely covered by udder, the lateral recumbency to the animal is preferred.

The animal was casted with the affected limb lower most and the three limbs are tied together. The affected limb is drawn slightly backward. In such a way that the stifle joint is flexed completely. In this position, the limb is tied just above the fetlock with a rope to middle of stout cotton. The ste is prepared for aseptic surgery. The index finger is moved upward along the cranial border of the tibia till lateral tibial tuberosity is reached where three straight patellar ligaments are attached. The finger is slipped inwards at the level of medial condyle of the tibia into the groove between the cranial, and medial ligament.

The finger is the medial ligament which is felt as a prominent cord. A small incision is made in the skin directly over the medial ligament starting immediately in front of the medal tibial tuberosity, towards the cranial tibial tuberosity.

The index finger is passed into the wound and the skin separated from the fascia around the site. The fascia is dissected to expose white glistening medial patellar ligament. The patellar ligament is exteriorized by passing a curved scissors under the ligament, from before backwards. The ligament is then sectined near its insertion using a knife. The wound is explores with index finger and undivided fibers of the ligament are severed completely by scissors. Suturing the wound with simple interrupted suture.

RESULTS AND DISCUSSION

Grossly, the animals were walking normal, after 48 hours and all clinical signs due to the upward fixation of patella by medial patellar were disappear after the position of ligament were corrected

The Jerky sound is subsided. The position to the stifle joint in flexion nature is normal as it dose not affected.

Complications that arise during inclined severing of the wrong ligament or inadvertent entrance into the femoropatellar joint with history.

A complication that can be seen postoperatively is dehiscence of skin incision and ululate is (3, 4, 5,). All those complication don't occur in animal treated due to well management in surgery and not found wrong the identified the medial patellar ligament. As well giving the animal a course of antibiotic Is useful to control local swelling, The Buffaloes should be rest for 2 Weeks prevented from swimming in water to prevent infection of the wound. (10, 11).

This study showed that restraining techniques require careful attention for get

success in the standing method of the operation. First of all, the limb to be operated should be kept straight so that due to weight bearing the ligament appears taut and the depression is easily identified to serve as a guide for inserting the knife. This also prevents accidental cutting of other structures. Cutting of ligament close to its insertion yielded the best results as the risk of entering the joint cavity was avoided. A simple method of tying the animal to two trees close to one another is recommended through this study for field level operations on a large scale. No loop was taken around the abdominal wall as practiced by many veterinarians as the animal tend to sit during the operation. The hindlimbs should be tied in figure of eight position above the hock region to prevent kicking.(8)

Just like the choice between the closed and the open methods, selection of the standing or recumbent methods is also a subject of debate. The majority of the surgeons prefer the casting position for patellar desmotomy because vicious Indian bullocks do not allow surgery in the standing position; they do not even allow the stifle region to be touched .However in the present study, a high success rate was obtained with the standing method because the Deoni breeds of bullocks were mostly docile. Even buffaloes were found well suited for standing method of operation. However this study revealed that the standing method of desmotomy was successful only if good restraining methods, local analgesia and skill are employed. The standing method showed advantages of accuracy, speed, elimination of the risk of injuries during casting and the need of extra attenders. No groove directors were required for standing operations in the present study as a curved pointed knife itself can be safely inserted behind the ligament. felt that many surgeons do not get success at first with the closed method of desmotomy using grooove directors and hence recommended open method of surgery. Like in the present study(11) .also preferred the standing position for operation.(9)

Traditionally, scientists attempted to cure lameness due to upward fixation of platella by injection of tincture of iodine or sodium salicylate into the joint capsule. However, satisfactory results were not obtained in all the cases. Medial patellar desmotomy was found as a standard procedure to cure this disease and was known as Bassi's mehtod in western countries was the first surgeon to report this operation. However, techniques of open or closed method or standing or recumbent methods are being practiced depending upon the surgeon's experience and skill.

For many years the recommended treatment involved cutting the medial patellar: A although this effective at preventing the patella became fixed, recent work has show that it is not without adverse effects. Fragmentation of the patella occurs after operation in a significant number of cases (7, 8).
There are cases of string bone in buffalo and cow especially in draft breed, due to mineral deficiency of potassium and magnesium .

العلاج الجراحي لانزلاق الرضفة في الجاموس في محافظة البصرة

عبدا لباري عباس الفارس
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الخلاصة

تم في هذه الدراسة تسجيل (65) حالة لأناث جاموس مصاب بانزلاق الرضفة ، وكانت تعاني من وجود صوت مرتج في مفصل العرقوب إثناء المشي وبعد الاستراحة مباشرة . وقد لوحظ إن الرباط ثابت في حالة الحركة ولكن الرضفة تنزلق فوق المفصل البكري .

وان جميع الحيوانات كانت مصابة بأحد الأطراف الخلفية ، وبعد قطع الرباط الرضفي ألأنسي عادت الحيوانات إلى الوضعية السوية

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