Surgical Treatment of Upward Fixation of the Patellar

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Introduction

- The gait of the hind limb was abnormal
- inability to flex the stifle joint
- tarsus and fetlock joints was able
- temporary or permanent
- Unilateral or Bilateral
- with the limb remaining in extension for a prolonged period
- as the dorsal aspect of the foot was dragged along the ground while walking
- and subsequent hyperflexion of the stifle

Introduction

- medial trochlear ridge larger than lateral trochlear ridge
- notch between medial trochlear ridge and femur
- Non patellar luxation
- A surgical treatment was decided to correct this case by horizontal incision of the medial patellar ligament near insertion site at tibial tuberosity can be presented normal gait (**Athichad, 2001**)

Etiology

- major potential factors for patellar fixation in cattle are “nutrition deficiency”
- exploitation activity
- external traumas
- breed and Genetic predisposition
- morphological changes of the medial trochlea ridge of the femur

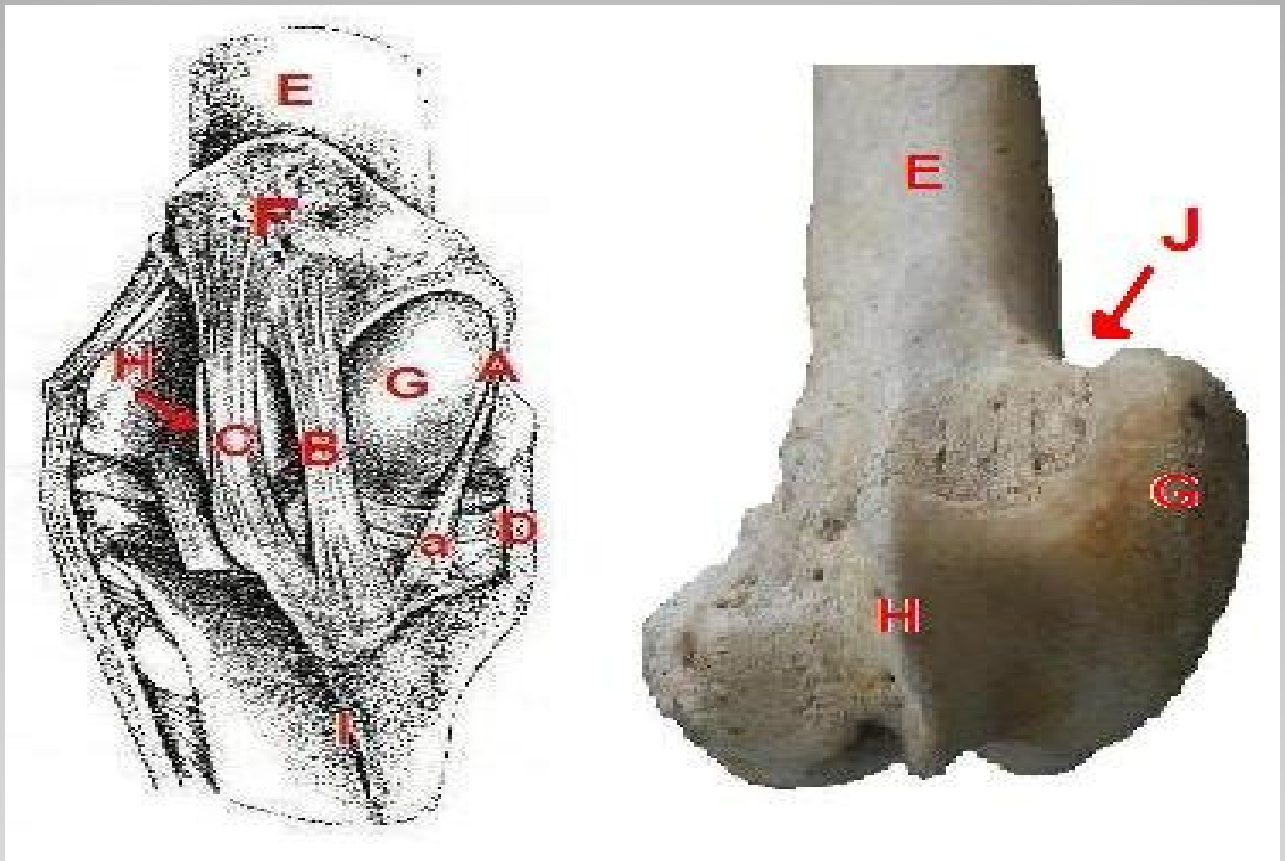


Figure 1. Anatomy of right stifle joint , distal part of femur. **A**, medial patellar ligament. **a**, position of desmotomy. B, middle patellar ligament. C, lateral patellar ligament. D, medial collateral ligament . E, femur. **F**, patella. **G**, medial ridge of trochlea. **H,** lateral ridge of trochlea (below lateral patellar ligament). I, tuberosity of tibia. **J**, notch between medial trochlear ridge and femur.

Breed	Season			Affected limb		
	Dry	Rainy	Total	Unilateral	Bilateral	Total
Bos indicus	81	22	103	77	26	103
Bos taurus	66	29	95	63	32	95
Crossbred	85	24	109	84	25	109
Buffalo	1	1	2	2	-	2
Total	233	76	309	226	83	309

Table 1. Cattle with dorsal patellar fixation,according to breed, the season in which the condition occurred and number of affected limbs.Breed

Silvaa *et al*., 2004

Breed	Average age (years)	Gender		Total	Percentage (%)
		Male	Female		
Bos indicus	6.15	6	97	103	33.33
Bos taurus	4.65	7	88	95	30.75
Crossbred	5.70	3	106	109	35.28
Buffalo	5.80	-	2	2	0.64
Total	-	16	293	309	100

Table 3. Cattle with dorsal patellar fixation and classified according to breed, age (in years) and gender

Silvaa *et al*., 2004

Breed	Reproductive category				
	Calved and nursing cattle	Pregnant	Calving	Not pregnant	Total
Bos indicus	23	11	54	9	97
Bos taurus	19	16	49	4	88
Crossbred	25	18	52	11	106
Buffalo	-	-	2	-	2
Total	67	45	157	24	293

Table 2. Famale cattle effeted with dorsal patellar fixation and according to breed and reproductive category.

Silvaa *et al*., 2004

History

- A 3-year-old American Brahman heifer
- abnormal gait and right stifle joint posture
- While walking, showed prolong extension of right hind limb with mild stiffness
- dragging of the toe along the ground
- and subsequent hyperflexion of the stifle

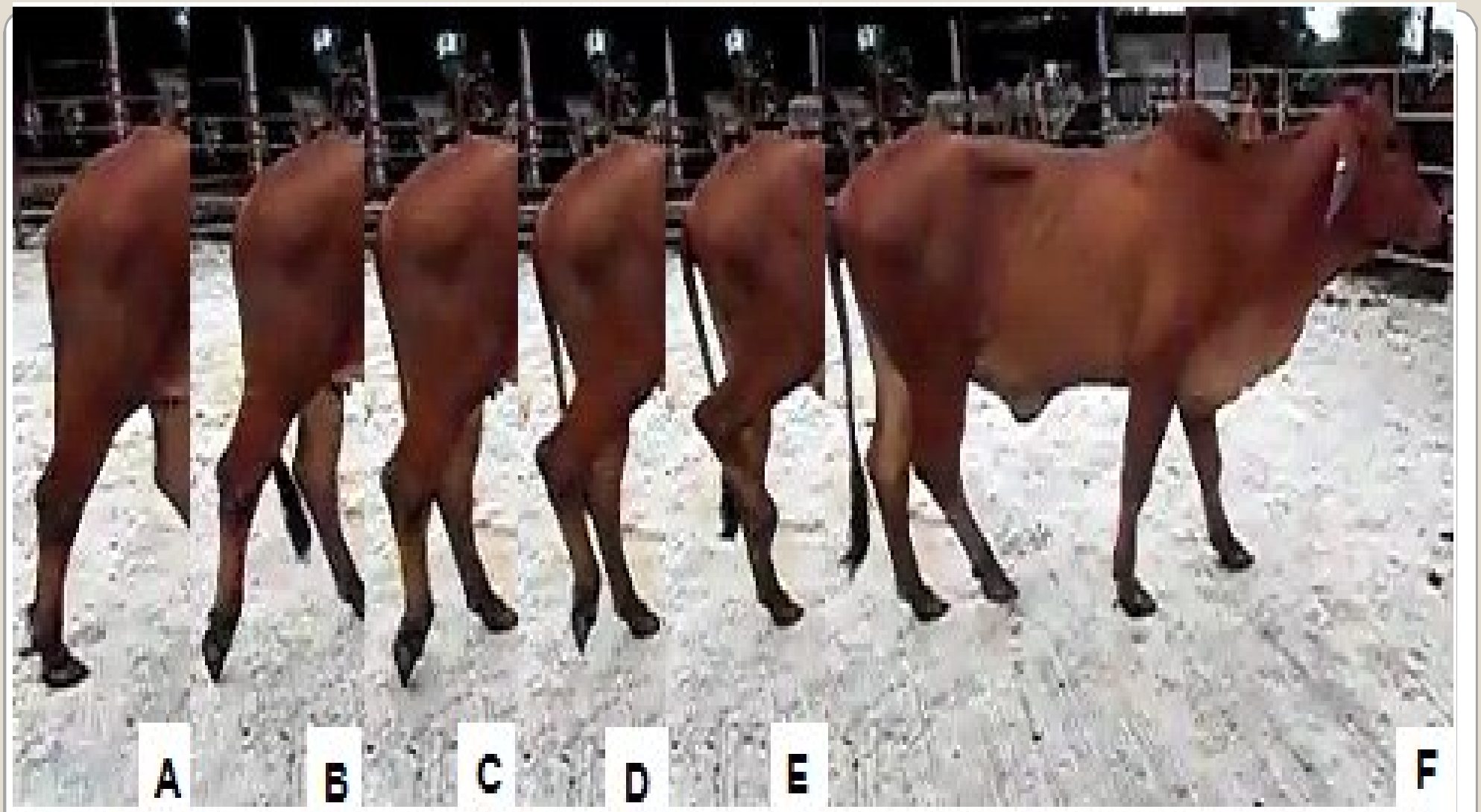


Figure 2. Prior to surgery. While walking (A) showed prolong extension of right hind limb with mild stiffness and dragged her toe on the floor(B,C) and subsequent hyperflexion of the stifle (D,E and F)

Clinical Findings

- General condition was excellent
- Good flesh, appeared bright and alert
- Good appetite
- Body condition score 2/5
- Heart rate 80 per minute
- Respirations 28 per minute
- Temperature 102 °F
- Mucus membrane was pink
- Rumen contraction rate 2 per 3 minute

diagnosis

- Clinical observation a diagnosis of upward fixation of the patella was made
- Palpation of right stifle at standing did reveal any abnormalitie
- Medial patellar ligament was rigid

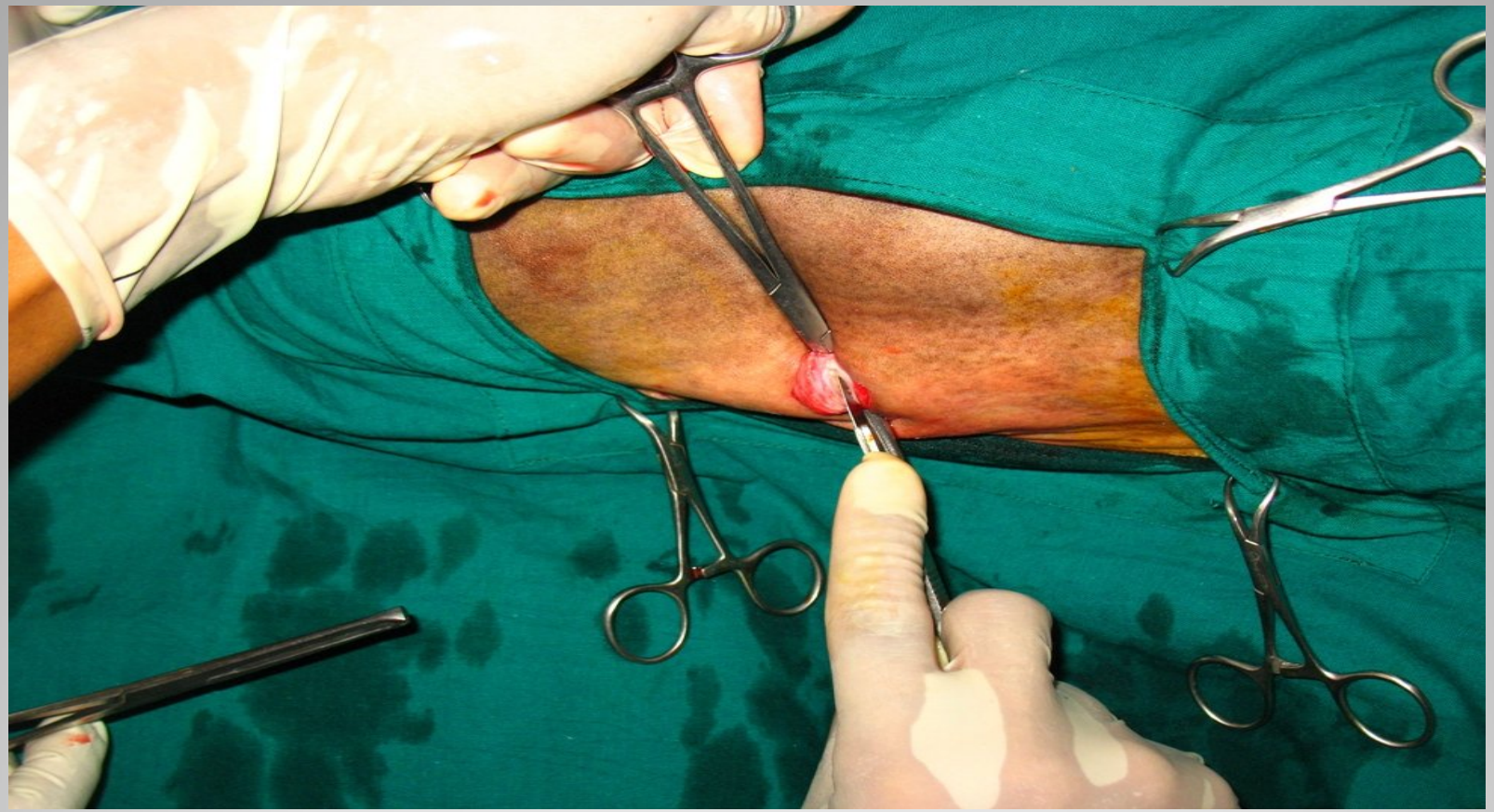
Surgical treatment

- Sedative with xylazine hydrochloride 0.1 mg/kg IM
- Restrainted with a rope in lateral recumbency
- Prepared aseptically for surgery

- Subcutaneous and deep infiltration with 8 mL of 2% lidocaine hydrochloride over the medial and middle patellar ligaments

- A 3 cm linear incision was made 0.5 cm lateral to the medial patellar ligament near its insertion on the tibial tuberosity

- Artery forceps were used to bluntly dissect the fascia from underneath the medial patellar ligament, When the forceps could be under the medial patellar ligament



- Horizontal inserted of the medial patellar ligament near its insertion on the tibial tuberosity

- The skin edges were apposed with # 2 supramid

- penicillin G 25,000 IU/kg IM SID 5 day
- phenylbutazone 10 mg/kg IM then 5 mg/kg SID 5 day

Results of surgery

Figure 8. Postsurgery. Lateral photograph demonstrating normnal stride immediately after medial patellar desmotomy.

Results of surgery

- after operated, she presented normal gait
- In one month after operated, she revealed normal gait and the surgical site was no complication

Thank you for you attention