

## CYCLOPS- THE GIANT IN POSTOPERATIVE KNEE

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### ARTICLE INFO

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**Keywords** Anterior cruciate ligament reconstruction, MRI, Focal Fibrosis

### ABSTRACT

Imaging in a painful knee after anterior cruciate ligament reconstruction with MRI reveals a spectrum of complications. In patients presenting with restricted extension, focal fibrous proliferation has to be considered, in addition to the integrity of neo anterior cruciate ligament.

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### INTRODUCTION

Pain in knee joint after anterior cruciate ligament reconstruction poses a challenge to the surgeon, which is evaluated with plain radiographs followed by MRI.

MRI because of its superior soft tissue resolution is widely used in evaluating the complications following the surgery which range from limited range of motion to increased laxity of the joint.

*Case report:* 30 year old male presented with pain in knee joint with rest and while walking approximately 12 weeks after anterior cruciate ligament reconstruction. On examination there was fullness in suprapatellar recess and restriction of the final 30 degrees of extension. No evidence of redness and local raise of temperature was noticed. Leg was unremarkable.

Popliteal artery pulse was within normal limits and Popliteal vein Doppler characteristics were within normal limits.

Anteroposterior(Figure 1) and lateral (Figure 2) radiographs of the knee were obtained which revealed normal position of femoral and tibial tunnels along with increased density and thickness of suprapatellar recess.



Figure 1: Anteroposterior radiograph-Normal position of femoral and tibial tunnels with reduced femorotibial joint space.



Figure 2: Lateral radiograph-normal position of tibial tunnel with increased thickness and density of suprapatellar recess.

MRI was performed with a 1.5T GE Signa , HDxt. The section thickness was 4mm ,with a gap of 0.5 mm, and 16cm field of view. MRI revealed completely non visualized reconstructed anterior cruciate ligament, significant joint effusion with extension into suprapatellar recess, and focal lesion at the level of interface of tibia and femur protruding anteriorly into Hoffa’s fat pad(Figure 3 and 4).Subchondral edema was noted along the articular aspect of tibia and femoral intercondylar notch with thinned out articular cartilage(Figure 5).



Figure 3: Saggital T1WI:nonvisualised anterior cruciate ligament .Focal lesion with mixed intermediate and hypointense signal at the femoro tibial

interface protruding into Hoffa’s fat pad anteriorly.Homogeneous hypointense joint effusion extending into suprapatellar recess.



Figure 4: Saggital T2WI:Focal lesion shows predominantly intermediate signal and uniform hyperintense joint fluid .



Figure 5: Saggital PDWI: Ill defined subchondral edema along articular aspect of tibia and femoral intercondylar notch.

**DISCUSSION:**

Knee joint is the second most commonly injured and imaged joint next to wrist [1].

Following trauma spectrum of injury include bone contusions, fractures and soft tissue injuries.

Pivot shift injury is the most common mode of mechanism [2] in which anterior cruciate ligament is involved invariably. Depending on the amount of force involved, injury to anterior cruciate ligament range from grade 1 sprain to complete rupture.

Management of anterior cruciate ligament injury depends on age of patient, functional requirements and the grade of injury.

Non surgical management[3,5] is usually advised for isolated acl injury, elderly and non athletic patients.

Surgical reconstruction[1] is undertaken in young and physically active patients[3]. Surgical technique[4] includes autologous bone patella bone and autologous hamstring graft technique.

Complications[4] following anterior cruciate ligament reconstruction include decreased range of movement by impingement, arthrofibrosis, intra-articular loose bodies and mucoid degeneration of graft. Increased laxity around the joint is caused by graft tear and graft stretching.

Cyclops lesion represents focal arthrofibrosis and is typically located at the level of intercondylar notch, protruding anteriorly into Hoffa's fat pad just above where the graft enters the tibial tunnel.

Cyclops lesion is so called because of its characteristic appearance in arthroscopy as focal bulbous lesion with reddish bluish discoloration resembling an eye.

Origin of the lesion [6] can be from the graft itself, infrapatellar fat metaplasia, tibial tunnel trap door, residual tibial acl stump and intercondylar fibrosis.

Cyclops lesion has to be suspected in patients presenting with loss of extension, even after aggressive physiotherapy and are to be resected with second look arthroscopy[6].

**CONCLUSION:** Patients presenting with loss of extension following reconstruction of anterior cruciate ligament should be evaluated with MRI to assess for Cyclops lesion

, who further require second arthroscopy for resection of the nodule.

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