

PP-03

A Case of Femoral Nerve Palsy after Hip Arthroscopy for FAI

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Aim

- Many good results of hip arthroscopic surgery for Femoroacetabular Impingement (FAI) have been reported, on the other hand, there are some reports of complications.
- We report a case of femoral nerve palsy after hip arthroscopic surgery.

Case

- 17 years old male
- Soccer player (goal keeper) who plays at a high level of high school soccer.
- Chief complaint : **Left coxalgia when he kicked the ball**
- History of present illness : Few months ago, when he kicked a soccer ball, he became aware of left coxalgia and consulted a nearby physician.
Diagnosed as FAI, he was referred to our hospital.
- General status
 - Height 181cm Weight 59kg (Body Mass Index 18.18)
 - Range of motion : No limit of range of motion except for the left hip flexion of 100 degrees.
→ **Anterior impingement test(+)**
 - Carter's sign 4/5 → **General joint laxity (+)**

Preoperative Image findings

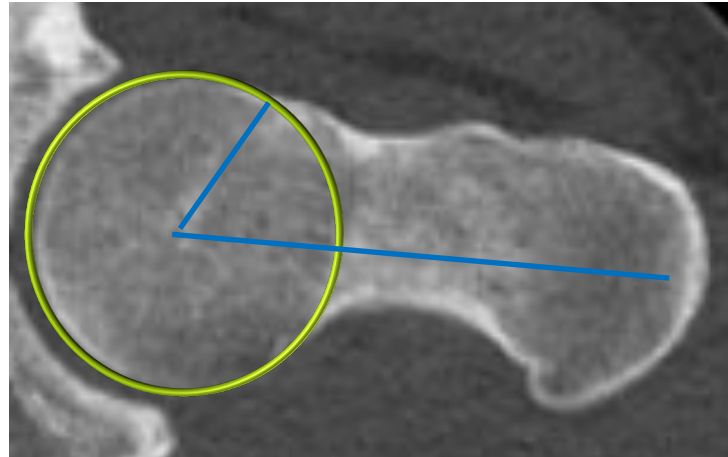


Xp

Right

Left
(Affected side)

- Sharp angle 43° 39°
- CE angle 31.5° 32°
- Osteoarthritic change(-)
- Bil. bump deformity (+)



radial CT

α-angle 61°



radial MR-arthrography

Anterior labral tear



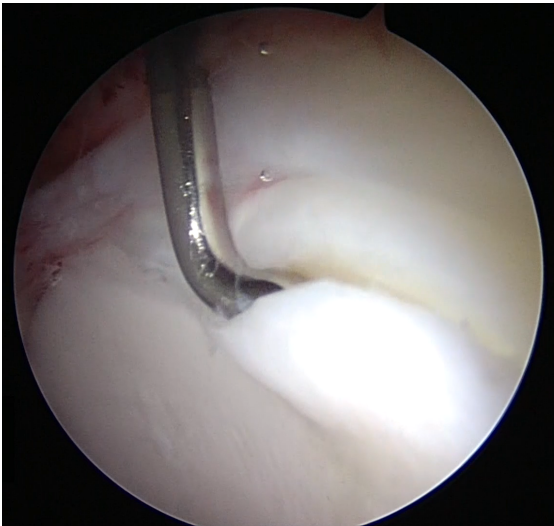
Cam type FAI

Treatment

- Spinal+ Epidural anesthesia
- Operation time : 209min
- Traction time : 120min
- Hip arthroscopic treatment

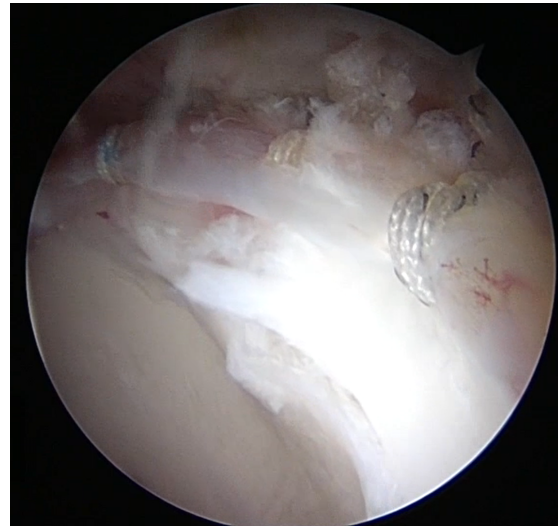


Traction operating table
(Hip Positioning System Smith & Nephew)



Anterior labral tear

Operation



Labral repair



osteochondroplasty

Postoperative course

- POD 1: Lt. iliopsoas MMT 1
Lt. Quadriceps MMT 1
Inability to extend left knee joint
The front of the left thigh sensory loss
- MRI→No hematoma
- POD 2 - 11 : hyperbaric oxygen therapy
- POD 10~ : Loss of sensation recovers
- POM 1 ~ : Motor paralysis gradually improved
- POM 2 ~ : **Complete recovery**
No limitation of left hip range
- POY 1 ~ : Return to the team with pre-injury performance

Femoral nerve palsy

Discussion

Complications Associated with Hip Arthroscopy

(Thomas Byrd J Operative Hip Arthroscopy. 2005)

- ◆ 1.34~15%/all cases
 - ◆ Pudendal nerve neuropraxia
 - ◆ Sciatic nerve neuropraxia
 - ◆ Lateral femoral cutaneous nerve neuropraxia
 - ◆ Intraabdominal fluid extravasation
 - ◆ Scrotal skin necrosis
 - ◆ Instrument breakage
 - ◆ Heterotopic ossification
 - ◆ **Femoral nerve palsy** (1 case) → ● Portal near the femoral nerve

Discussion

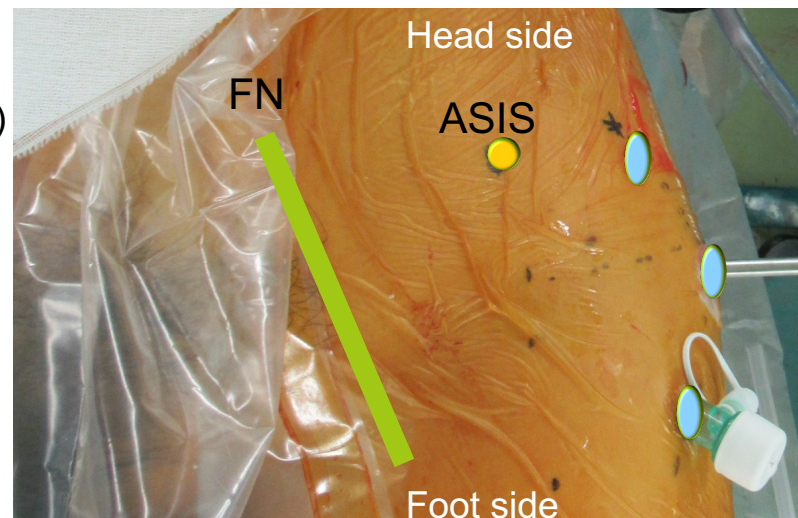
Causes of femoral nerve palsy

- ◆ **Hematoma or tumor in the iliopsoas** → **No hematoma**
(Robinson KP et al, J Bone Joint Surg Br 2007)
(Dogramaci Y et al J Med Case Rep 2009)

 <This case>
- ◆ **Surgical damage** → **No compression**
 proper portal placement

 ◆ Compression by muscle hook
 (Fleischman AN et al J Arthroplasty 2018)

 ◆ Portal location
 (Thomas Byrd J Operative Hip Arthroscopy. 2005)



- :Portal
- :Femoral Nerve (FN)
- :Anterior superior iliac spine(ASIS)

Discussion

Causes of femoral nerve palsy

◆ Traction injury

- ◆ Trauma
(Nagano et al Orthopedic surgery 1976)
- ◆ Hyperextension under anesthesia
(Kokubun et al Orthopedic surgery 1975)
- ◆ In cases with general joint laxity,
palsy is likely to occur
when the femoral nerve is stretched.
(Edward H.Miller et al, J Bone Joint Surg 1985)
(Thomas Byrd J Operative Hip Arthroscopy. 2005)



<This case>

Under anesthesia
Under traction
General joint laxity



**Palsy caused
by extension of femoral nerve.**

Conclusion

- We experienced a case of femoral nerve palsy after hip arthroscopic surgery for FAI.
- It should be kept in mind that complications of hip arthroscopic surgery might result in femoral nerve palsy in cases with general joint laxity .