Evaluation and physical therapy for Lateral Gluteal Pain

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Authors have no COI with this study

Introduction

- Lateral gluteal pain is often associated with hip joint pathology.
- We experienced some cases with lateral gluteal pain derived from the gluteus minimus (GMn) improved symptomatically following physical therapy (PT).
- Evaluation methods and PT for improving GMn dysfunction.

Materials and Methods

- The subjects: 6 patients receiving PT at our clinic
- Lateral gluteal pain with bending forward on the affected side

*Age: 57.7±13

*Hight(cm): 156.7±4.3

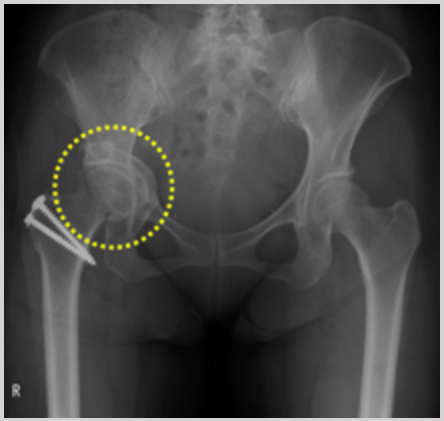
*Body weight(kg): 53.7±12.5

*BMI: 21.7±4.2

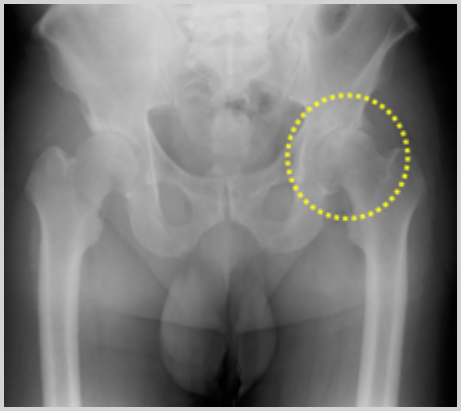
- Cases: Rotation acetabular osteotomy(RAO)x1, Osteoarthritis(OA)x2, Developmental dysplasia of the Hip(DDH)x1, Idiopathic Osteonecrosis of femoral head (ION)x1 and FAI treated with Hip Arthroscopy(HA)x1

X-ray of the cases

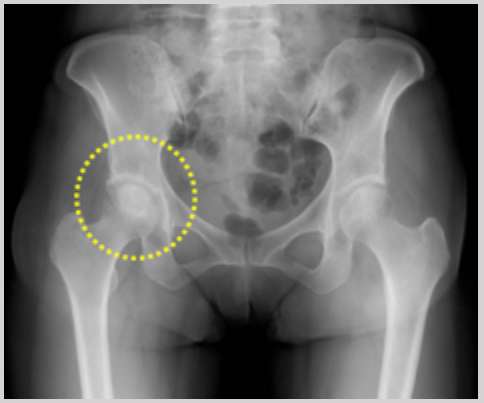
Case1 Female 48
RAO



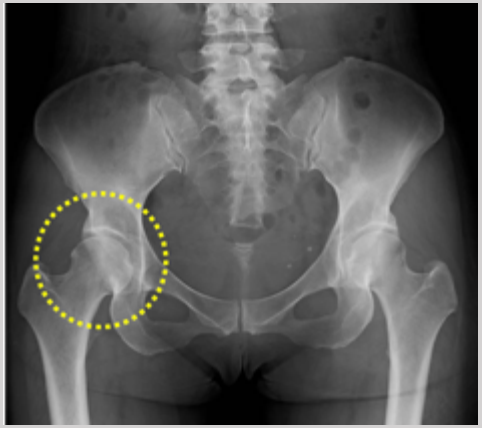
Case2 Male 61
OA



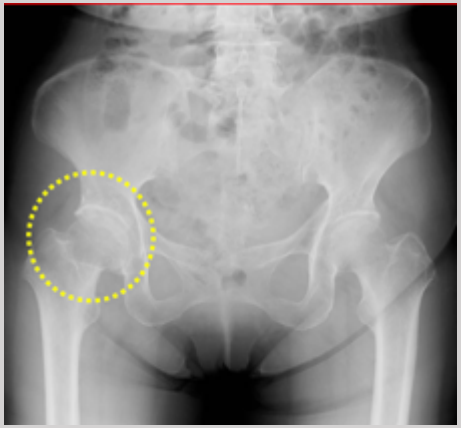
Case3 Female 64
ION



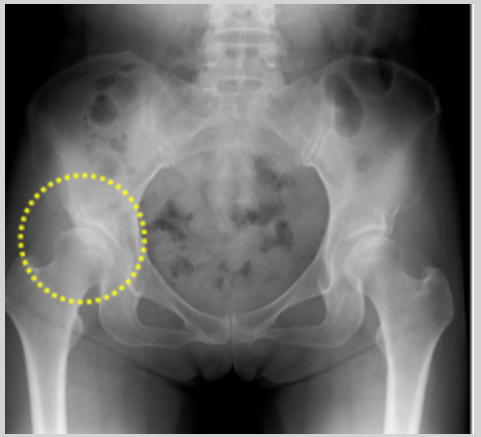
Case4 Female 41
FAI



Case5 Male 78
OA

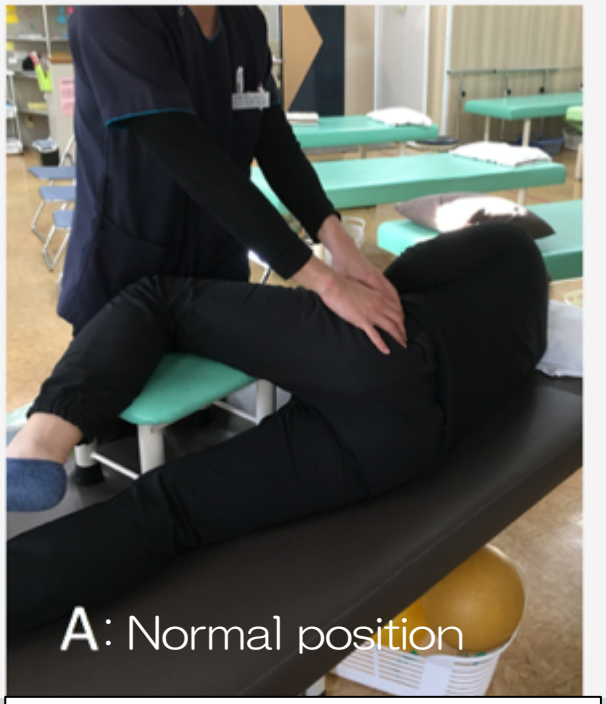


Case6 Female 54
DDH



Evaluate for tenderness of the GMn

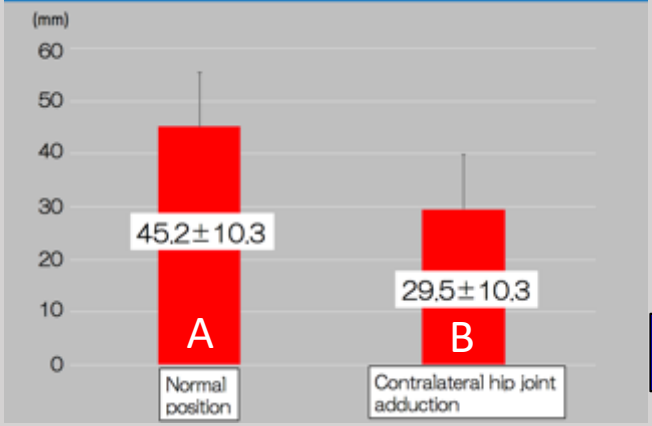
Pointillage to deep layer around the femoral neck was performed.



Tenderness of the GMn was evaluated at the lateral position.

The patient was instructed to hold the contralateral hip in an adduction position to promote affected pelvic elevation muscles contraction.

Change of tenderness of the GMn



Tenderness of the GMn

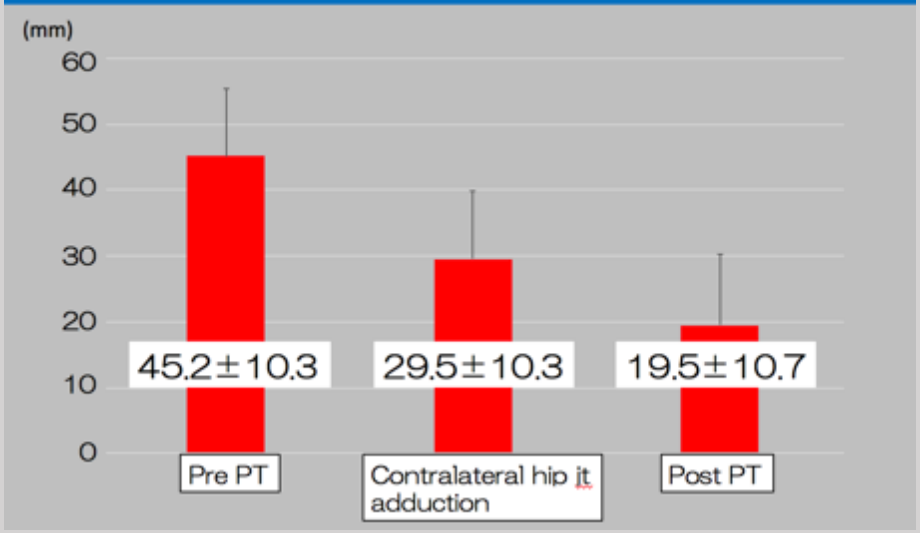
Significantly reduced from (A) to (B) position

PT to activate the pelvic elevation muscles

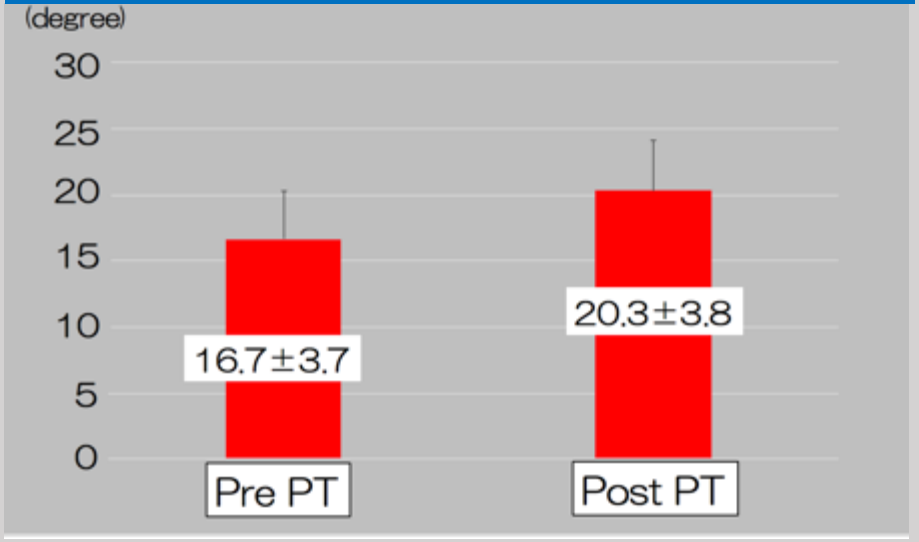
Therapist pulled the pelvic backwards(A) and downward (B).The patient maintained this position.

Results

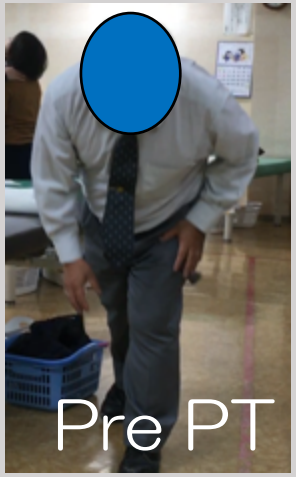
Change of tenderness of the GMn

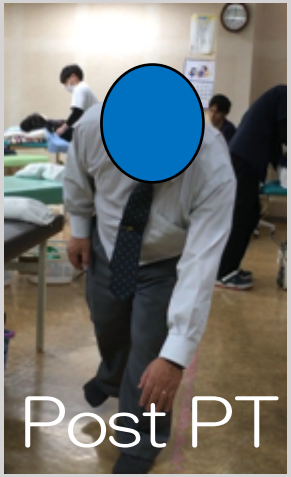


Change of adduction angle of the hip joint



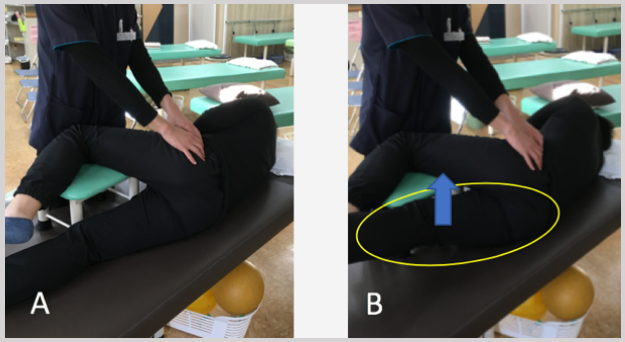
Case presentation (Case 2)

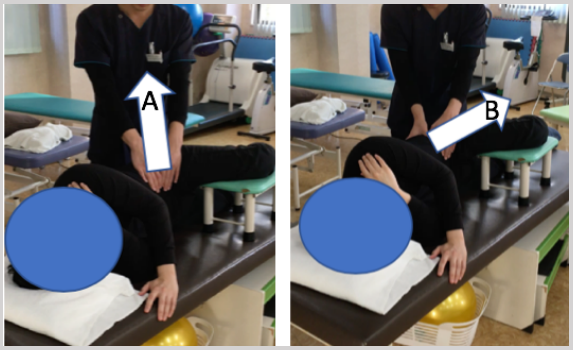




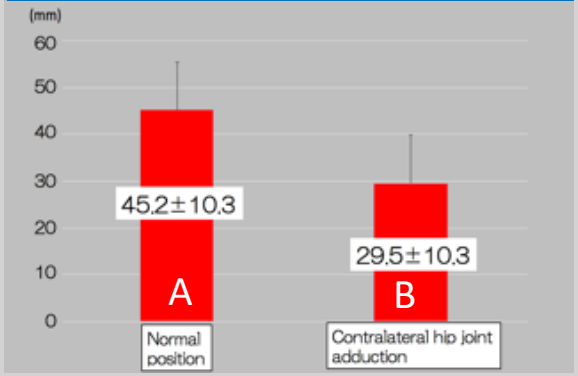
- ✓ The tenderness of the GMn has reduced and adduction angle has increased by PT.
- ✓ Lateral gluteal pain with bending forward has also reduced.

Discussion

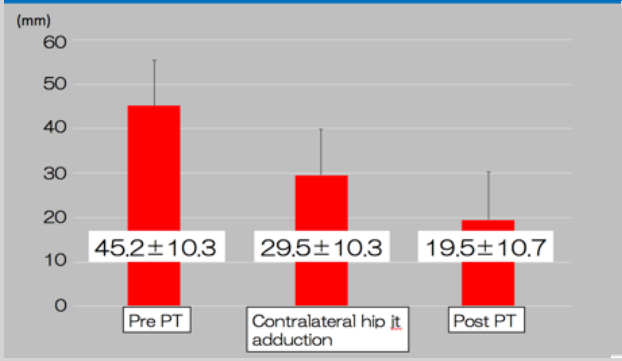




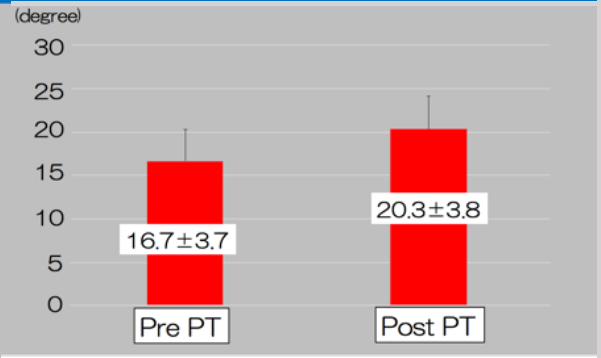
Change of tenderness of the GMn



Tenderness of the GMn



Adduction angle of the hip joint



The efficacy of increasing pelvic elevation muscles activity reduce excessive muscle tone of the GMn.

Hip muscles are affected by trunk function

- Trunk muscle activity occurring prior to activity of the prime mover of the limb was associated with hip movement in each direction. (Hodges PW, et al.,1997)

- There is a clear relationship between trunk muscle activity and lower extremity movement. Current evidence suggests that decreased core stability may predispose to injury and that appropriate training may reduce injury. (Willson,J, et al., 2005)

- When performing PT for hip diseases, it is necessary to understand the function of the lumbar and pelvic regions. (Hori H, et al., 2016)

Limitation

✓Short-term results by single treatment.

- ✓ Evaluation of tenderness of the GMn was not quantitative.
- ✓ Pathology of the GMn was not confirmed by MRI or ultrasound.
- ✓ The mechanism by which excessive muscle tone of the GMn was reduced has not investigated.

Conclusion

- ✓The tenderness of the GMn and lateral gluteal pain were reduced following physical exercises that activated pelvic elevation muscles.
- ✓Tenderness of the GMn might be affected by the ipsilateral pelvic elevation muscles.
- ✓Therapist should first improve affected pelvic elevation muscles activity for GMn disorder.