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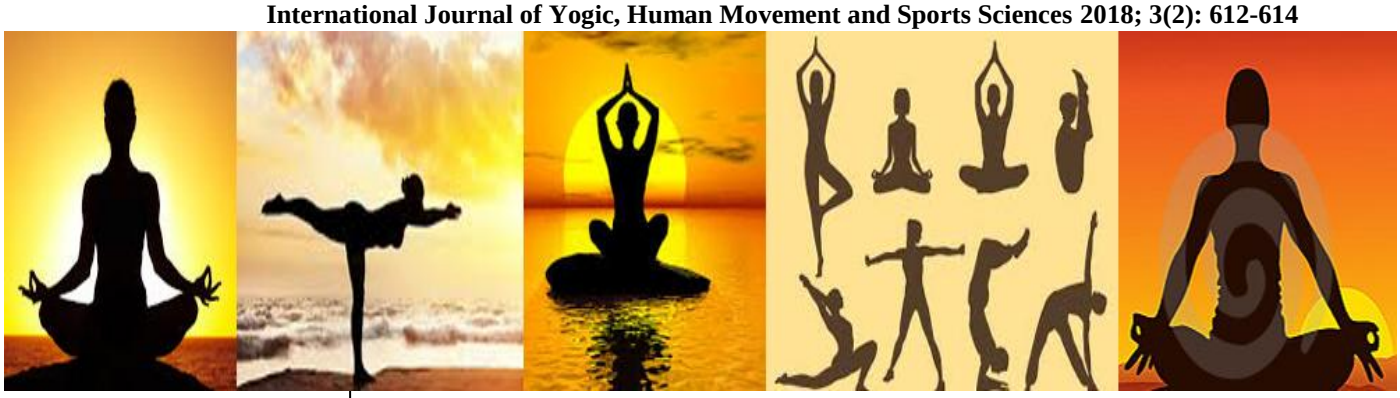

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Adductor muscle strain is causes of groin pain

Yallappa M and Dr. R Munireddy

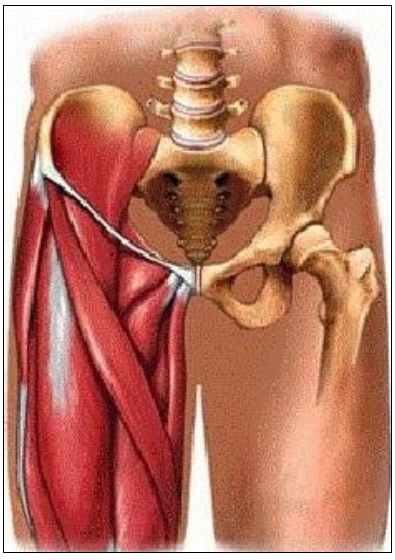
Abstract
Now a days Injuries to muscular tendinous unites are frequently seen sports and often lead to pain and disability. 30% injuries are common muscle “strain” or “pull” injuries to thigh adductor muscle is common in soccer but can occur in Hockey. Tennis and running events.
Strain can occur in all five adductor muscles but more frequent in adductor longus with acute injury to adductor muscle unable to walk with chronic adductor injury often have persistent Groin pain refractory to conservative treatment.in most cases of chronic injury. patients are able to recall an injury year earlier.in the article I am going to shows that how to rehabilitate of adductor strain or groin pain.

Keywords: Groin pain, injuries, muscle, soccer, hockey

Introduction
A groin strain is a partial tear of the small fibers of the adductor muscles. The adductors are a group of three muscles located on the inner side of the thigh. They start in the groin area and run down the inner thigh to the inner side of the knee.

Causes
A groin strain can be caused by: Stretching the adductor muscles beyond the amount of tension that they can withstand suddenly putting stress on the adductor muscles when they are not ready for the stress using the adductor muscles too much on a certain day A direct blow to the adductor muscles

Risk Factors
A risk factor is something that increases your chance of getting an injury. Risk factors for a groin strain include: Participation in sports that require bursts of speed, such as: Running Hurdles, Long Jump, Basketball, Soccer & Hockey.



Mechanic of adductor muscle injuries:

1 Forceful adduction of thigh during an international adducting motion. {Having the foot struck laterally while kicking a ball}
2 Over stretching of the groin during extreme thigh abduction.{effects mostly distal myotendinous junction}

Anatomy of adductor muscles It comprises 5 muscles:

1. Adductor Magnus.
2. Adductor brevis.
3. Adductor longus.
4. Gracilise
5. Pectineus.

1. Adductor Mugnus

It has 2 portions

a) The hip adductor portion originates from ischiopubic ramus and inserts on the linea aspera of the femur.
b) The hip extensor portion originates from the ischial tuberosity and inchial above the medial femoral condyle

This muscle can be palpated in the lower third of the thigh if the patient adducts the thigh against resistance.

2. Adductor longus and adductor brevis

Originate from anterior pubis and can be palpated together as a mass proximally in the medial thigh if the adducts the thigh against resistance.

3. Gracilis

Gracilise is the most medial and superficial originates from the lower edge of the pubis and ischium. Crosses the hip and knee joints and inserts on the medical aspect of the tibia.

Can be palpated if the adducts the leg and internally rotates the foot while setting with the knee flexed.

4. Pectineus

Originates from superior ramus of the pubis and pubic tubercle and the pectineal line of femur often difficult to palpate because it lies deep.

History

A) a. location of pain
b. Duration of the pain
c. severity of pain
d. Quality of life
e. Aggravating factors
f. Alleviating factors

B) a. Hernia
b. Hip disease
c. Genitourinary symptoms
d. Systemic complaints if patient has a groin mass

Physical Examination

- Inspection may reveal a mass in groin.
- Most strains produce a palpable defect,
- Ecchymosis in medial mid-thigh is common.
- Groin and scrotum must be examined for asymmetry and masses.
- Abdominal musculature should be evaluated for visible defects.
- Should palpate inguinal and Femoral regions for hernia
- Palpation of groin may revel tenderness near the insertion of the rectus abdominis
- Origin hernia.
- Active and passive range of motion should be assessed while keeping in mind the possibility of joint disease.
- Adductor, quadriceps and hamstring tightness should be evaluated because they can cause groin pain.
- Sit up against resistance can distinguish between abdominal and adductor strain.
- Pain within the groin test more test specific to injury of rectus abdominis.

Imaging Studies

- Can be used as adjuncts.
- X-ray of hip should be taken to rule out possible fractures and joint diseases.
- Herniography is recommended if the physical examination indicated abdominal muscle tenderness near public insertion.
- Computed tomography is warranted when symptoms persist that cannot be explained by history and physical examination.
- It can differentiate soft tissue tumours from chronic injury.
- MRI is better than CT for assessing soft tissue injury.
- With MRI it is not possible to distinguish acute and chronic injuries.

Conservation management purpose

a. Relief of pain
b. Reduction of swelling
c. Restoration of range of motion

Immediate treatment

a. Ice
b. Elevation
c. Rest
d. Compression

After several days

a. Heat
b. Passive stretching
c. Support banding
d. Isometric strengthening
e. Passive range of motion

Non-steroidal anti-inflammatory drugs do not reduce the healing time but decrease pain and allow earlier mobilization. Can be given for 7-10 days following injury. Treatment in case of acute complete muscle rupture is controversial. It could be conservative treatment or surgical repair.

In chronic injuries, when pain is persistent and refractory to rehabilitation, surgery is indicated. {Surgical removal of the muscle. Akeramark and Johansson have suggested alternative procedure, tenotomy, which found to be curative in all patients with chronic pain.

Preventions Strategies: Proper warm up {stretching regimens are very important} Static and proprioceptive neuromuscular facilitation {PNF} stretches are believed to be more effective. Static stretching requires stretching to the point of mind discomfort and then holding.

PNF uses alternating contractions and stretches of muscles to relax connective tissue. Most experts advocate the use of strength training to prevent muscle strain.

Conclusion

Adductor muscles strain is one of the most common causes of groin pain, history and physical examination should focus on

the common causes of groin pain, X-rays to be taken to rule out fractures and joint diseases, CT and MRI reserved for complicated cases in which diagnosis is unclear form the history and physical examination, Management should be directed at the relief of pain and swelling with early restoration of range of motion, Surgical repair may be indicated in acute, complete rupture with pain refractory to conservative treatment.

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