

The knee is the most important joint in the career of a football player, whose injuries play a determining role in the quality of life. When studies on football injuries are reviewed, it is seen that knee and ankle injuries are much more common than other injuries. These studies also show that the injuries that bring an end to an active sports life are knee injuries. The first serious symptom of damage to the knee is hemarthrosis, which is blood in the knee, seen most commonly following acute injury where there is tearing of the vascular structure.

DIFFERENTIAL DIAGNOSIS OF ACUTE HEMARTHROSIS:

■ Rupture of anterior cruciate ligament	70-72%
■ Patella dislocation	10-15%
■ Peripheral meniscal tears	10%
■ Osteochondral fracture (without patella dislocation)	2-5%
■ Others – posterior cruciate ligament injury, capsular tear, etc.	5%

ACUTE TRAUMATIC HEMARTHROSIS OF THE KNEE

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Acute hemarthrosis following a knee injury requires careful evaluation as most cases involve damage to the anterior or posterior cruciate ligament, chondral fracture, dislocation of the patella, meniscal tear and intercondylar eminence fracture (especially among youth players). Further lesions can be observed singularly as well as subsequently or together. Knee ligaments are often injured during football and other sports in which sudden stress that disrupts the knee ligament is likely. But hemarthrosis may also occur from non-contact injuries.

In this category, sudden changes of direction or sudden pauses are the most commonly seen injury mechanisms. The severity of the lesion may vary from a mild sprain, in which none of the ligamentous fibers are disrupted, to a complete disruption of a single ligament or a combination of ligaments or only damage to articular cartilage.

Physical examination should be carried out in the stadium just after the injury. Since severe swelling, tense effusion and muscle spasms make examination and precise diagnosis difficult, examination

should be carried out immediately after the injury. When performed at a much later time, evaluation is much more difficult and may, under some circumstances, require anesthesia. The initial pain usually subsides rapidly. The hemarthrosis occurs rapidly, usually within one to six hours. A tense hemarthrosis may prevent full extension and should be evacuated. The range of motion of the joint, especially full extension, should be compared with that of the opposite uninjured knee. Muscle spasm and guarding and hemarthrosis in the acutely injured knee may mask instability during clinical examination.

Standard clinical examination should include:

- Varus/Valgus stress test to rule out collateral ligament injury.
- Anterior drawer test with the knee flexed to 15-20° (Lachman test). This test is more accurate than a standard "drawer test" because the acutely injured knee is more comfortable in this slightly flexed position, the force produced by hamstring spasm is negated and "locking" action of the posterior horn of the medial meniscus

that is present when the knee is at 90° is eliminated.

- Contraction of the quadriceps muscle with the knee flexed to 15-20° (anterior subluxation of the tibia). The natural action of the quadriceps muscle is to pull the proximal tibia forward. When the anterior cruciate ligament is damaged or absent this anterior subluxation is observed.
- Posterior drawer test with knee at 90° flexion to rule out posterior cruciate ligament injury.
- Pivot shift test characterised by forward subluxation of the lateral tibial plateau on the femoral condyle in extension and spontaneous reduction in flexion. The patient is in supine position on the examining table. The knee is extended with the foot held in internal rotation and valgus stress applied to the knee. As the knee is flexed, the tibial plateau will reduce with a "shift".

A routine X-ray (anterior-posterior, lateral, tangential and tunnel view) should be obtained. If there are any lesions, first of all roentgenographic and magnetic resonance imaging view should be obtained after physical examination.

Management should start with a careful examination of the injured knee. Such an examination should provide diagnosis with 80-90% accuracy. In order to start the appropriate treatment, the right type of instability should be diagnosed. Now the goal of treatment is not only improving the functional capacity of the knee, but also protecting the structures of other fractions of the joint.

The first step in treatment after injury is to put the leg to rest. If hemarthrosis develops rapidly, arthrocentesis should be performed under strict aseptic condition. Arthrocentesis relieves pain of capsular distention, documents hemarthrosis, alleviates possible detrimental effects of the blood on articular cartilage and, if fat globules are seen, this indicates a probable osteochondral fracture or tibia plateau fracture.

The knee should be bandaged with elastic bandage and cryotherapy should be carried out around the knee right away. Symptoms should be lessened with symptomatic anti-inflammatories and analgesics. The goal of treatment of traumatic lesions of the ligaments

is the restoration of the anatomy and stability of the knee to the nearest pre-injury status as possible. The basis is to regain the movement ability of the footballer and a good extremity control. The functional treatment of knee ligaments is now motion. For this purpose hemarthrosis, the first serious symptom, may lead to negative results if the treatment is carried out carelessly. The final result of traumatic lesions of the knee ligaments depends on a thorough and precise diagnosis followed by early surgical correction when necessary and complete rehabilitation of the musculotendinous supporting unit.



Elastic bandages must be used.