ACUTE TRAUMATIC HEMARTHROSIS OF THE KNEE

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The knee is the most important joint for the carrier of the football player whose injuries play a determinant role in the quality of life . When the studies about football injuries were reviewed it is seen that knee and ankle injuries are much more common than other injuries. And these studies show that the injuries which end the active sports life are knee injuries. Hemarthrosis is the first serious symptom of the damage in the knee harmony . Hemarthrosis is the blood in the knee , seen most commonly following acute injuries where there is tearing of vascular structure Acute hemarthrosis following a knee injury demands careful evaluation since most cases involve damage in the anterior or posterior cruciate ligament, chondral fracture, dislocation of patella, meniscal tear and intercondylar eminence fracture (especially among junior players). Developing lesions can be observed singolarly as well as followingly or together. Knee ligaments are often injured during football and other sports in which sudden stress that can disrupt the knee ligament is likely. But hemarthrosis may occur also from noncontact injuries. In this category, sudden change of direction or sudden pauses are 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 spasm make examination and precise diagnosis more difficult, examination should be carried out immediately after the injury. When performed at a much later time, evaluation is much more diffucult 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 uninjuried knee. Muscle spasm and guarding and hemarhtrosis in the acutely injured knee may mask instability during clinical examination

Standart clinical examination should include;

a. Varus/Valgus stres test to rule out collateral ligament injury.
b. Anterior drawer test wit the knee at 15-20 º of flexion (Lachman test). This test is more accurate than a standart " drawer test" because the acutely injuried knee is more comfortable in this slightly flexed position, the force produced by harmstring spasm is negated and "blocking" action of the posterior horn of the medial meniscus that is present when the knee is at 90% is eliminated.
c. Contraction of the quadriceps muscle with the knee flexed 15-20º (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.
d. Posterior drawer test with knee at 90º flexion to rule out posterior cruciate ligament injury. f) Pivot shift test charecterized 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 in extension with the foot held in internal rotation and valgus stress applied to the knee. As the knee flexed the tibial plateau will reduce with a “shift”. İn routine roentgenograms anterior-posterior, lateral, tangential and tunnel view should be obtained. If there are any lesion fist of all roentgenographic and magnetic resonance imaging view should be obtained after physical examination.

Management starts careful examination should provide diagnosis with 80-90% accuracy because 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, arthrocenthesis should be performed under strict aseptic condition. Arthrocentesis; relieves pain of capsuler distention, documents hemarthrosis, alleviates possible detrimental effect of blood on articular cartilage and if possible fat globules are seen this indicates a probable osteochondral fracture or tibia plateau fracture.

The knee should be bandaged with elastic bandage cryotheraphy should be carried out around the knee right away. Symptoms should be lessened with symptomatic antinflammatores and analgesics. The goal of treatment of traumatic lesion of the ligaments is the restoration of the anatomy and stability of the knee at the nearest preinjury status as possible. The basis is to gain the movement ability of the footballer and a good extremity control. The functional treatment of knee ligament 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 lesion of the knee ligaments depends on the through and precise diagnosis followed by early surgical correction when necessary and complete rehabilitation of the musculotendinious supporting unit.

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%