Abstract: Proximal tibiofibular joint dislocation is a rare injury. Four types of proximal tibiofibular disruptions were found and they were classified as subluxation, anterolateral dislocation, posteromedial dislocation and superior dislocation. Idiopathic dislocation of proximal end of fibula appeared to be a self-limited condition of youth with decreasing symptoms as the patient approached skeletal maturity. Anterolateral dislocation was the most common injury encounter 85. Unfortunately the diagnosis was missed in about one third of cases. Most of the cases respond well by closed reduction. If chronic dislocation develops then arthrodesis or resection of proximal end of fibula can be done surgically. Posteromedical dislocation is proved more unstable after initial reduction. Mechanism of injury in this type is sudden internal rotation and plantar flexion of foot with external rotation of leg and flexion of knee. This injury may be associated with transient peroneal nerve palsy. Early diagnosis and management is the important factor in final outcome. All cases of lateral knee pain and history suggesting of proximal tibiofibular joint injury should raise clinical suspicion. Plain radiograph of both knee used as first imaging modality. Computer tomography is indicated if there is diagnostic uncertainty.

Keyword: Posteromedial dislocation, common peroneal nerve palsy, open reduction

Introduction: Proximal tibiofibular dislocation is a rare injury. It is thought that many cases are undiagnosed and not reported. This injury described in athletes mostly professional but also recreational, in the field of jumping, ballet dancing, parachuting, snow boarding. It is classified as acute proximal tibiofibular dislocation or chronic proximal tibiofibular joint disruption. In his paper 1974 Ogden suggested a modification to the classification offered by Lyle in 1925. He described four type of pathologies around the proximal tibiofibular joint. Type I Subluxation, Type II Anterolateral dislocation, Type III Posteromedial dislocation, Type IV Superior dislocation. This injury may be accompanied by an associated transient peroneal nerve palsy.

Early diagnosis and management is a very important factor in the final outcome. Posteromedial dislocation is rare. This injury is usually the result of the severe blow to the knee (such as inflicted by a car bumper) with the proximal part of the fibula being pushed posteriorly and medially. Severe disruption of anterior and posterior capsular ligaments of tibiofibular joint, with probably a significant tear of part of fibular collateral ligament, allows the biceps to draw the unsupported proximal part of fibula posteriorly. In view of poor reports of cases, which were treated conservatively, a posterior dislocation probably should be treated by open reduction and internal fixation.

We reported a case of posteromedial dislocation of proximal tibiofibular joint with transient peroneal nerve palsy.

Case history: A 20 years old male, presented to our hospital with alleged history of Road traffic accident (right leg trapped between divider and bus). He had tenderness and instability in lateral aspect of right knee. The right knee was diffusely swollen and foot drop present over right foot. On the left side 10*7 cm degloving injury over middle third of left leg (Fig:1). Radiographs showed that the right side with posteromedial dislocation of proximal tibiofibular joint (fig:2) and the left side with no bony injury.
Fig 2: Radiograph and CT scan showing posteromedial dislocation of proximal tibiofibular joint

Patient had right side foot drop, hence the patient was prepared for open reduction of the dislocation. Lateral approach was used. Common peronaeal nerve identified, found intact and protected. The fibula found to be dislocated posteriorly and medially. Hohmann retractor is used to lever the dislocated fibula head back to its position and fixed with 4.5mm cortical screw with washer (Fig:3). Intraoperatively knee movement was checked and fixation found to be stable. Wound closed with drain. Split skin grafting applied for left side leg. Postoperative x ray showed satisfactory reduction of the fibula (Fig:4).

Fig 3: intra operative picture showing the common peroneal nerve and the implant after reduction. Fig: 4 post-op radiographs showing the reduced tibiofibular joint

He was advised with protected weight bearing on crutches for 3 weeks, with gradual progression to full weight bearing after 6 weeks

Discussion:
Proximal tibio-fibular joint injuries are considered as rare solitary findings and are mostly related to sporting activities. In most of the cases reduction can be achieved easily by applying direct force over the joint. If a closed reduction attempts fails, open reduction is needed. The literature suggests anything from 6 weeks in non-weight bearing cast immobilisation to early range of motion exercises. In our patient, full range of motion exercises were allowed immediately following surgery, weight bearing was limited for first three weeks with a gradual return to full weight bearing over 6 weeks.

References: