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Evaluation of cases of patellar injuries

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ABSTRACT:

Background: Patellar injuries are quite common and the most common injury associated with it is ACL injury. The present study was performed to evaluate cases of patellar injuries. **Materials &Methods:** 60 patients with patellar injuries of both genders were selected and a thorough clinical examination was carried out. Parameters such as fracture, dislocations, etiology of fracture, associated injuries were recorded **Results:** Out of 60 patients, males were 32 and females were 28. The etiology was road traffic accident (RTA) in 32, fall in 18 and domestic violence in 10 patients. Injuries were fracture in 30, dislocation in 19 and anterior cruciate ligament injuries in 11 patients. The difference was significant (P < 0.05). **Conclusion:** In maximum cases, fracture was seen followed by dislocation and associated injuries such as anterior cruciate ligament injuries.

Key words: Knee, pain, Patella

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INTRODUCTION

Patellar injuries are quite common and the most common injury associated with it is ACL injury. The anterior cruciate ligament is currently the most common ligament injury in the knee joint. The number of incidences is as many as 1/3,500 subjects each year.1 Sports like skiing, ice hockey, and gymnastics can also produce enough stress to disrupt knee ligaments. Automotive accidents, especially those involving motorcycles, are common causes of knee ligament disruptions.² Sudden severe loading without a fall or contact, like the deceleration of a running athlete can also cause ligament disruption. Knee pain is the second most prevalent condition, with patellofemoral pain (PFP) being considered one of the most common forms of knee pain, with a prevalence cited between 15% to 45%. It is described as non-traumatic in nature, with diffuse anterior knee pain on activities that load the joint such as squatting, running, climbing and descending stairs.³

A common symptom of patellar injury and dislocation is acute pain after direct contact or sudden change of direction (ie, a cutting maneuver).³ With sudden changes in direction, the femur medially rotates over the ground-stabilized tibia. Under these conditions, athletes commonly feel the knee giving way, which is the result of quadriceps inhibition from pain, a physiologic protective mechanism.⁴ Rapid swelling, intense knee pain, and difficulty with any knee flexion usually occur. Other dysfunctions with similar presentations and mechanism of injury are meniscal and ligamentous injuries, particularly anterior cruciate ligament injury.^{5,6} The present study was performed to evaluate cases of patellar injuries.

MATERIALS & METHODS

The present study consisted of 60 patients with patellar injuries of both genders. All patients were informed regarding the study and their written consent was obtained.

Data such as name, age, gender, etc, was recorded. A thorough clinical examination was carried out. Parameters such as fracture, dislocations, etiology of fracture, associated injuries were recorded. Results of the study were analysed statistically. P value less than 0.05 was considered significant.

RESULTS Table I Distribution of patients

| Total- 60 | | | | |
|-----------|-------|---------|--|--|
| Gender | Males | Females | | |
| Number | 32 | 28 | | |

Table I, graph I shows that out of 60 patients, males were 32 and females were 28.



Graph I Distribution of patients

| Table II Assessment of parameters |
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| ient of parameters | | | | |
|--------------------|-------------------------------------|--------|---------|--|
| Parameters | Variables | Number | P value | |
| Etiology | Road traffic accident | 32 | < 0.05 | |
| | Fall | 18 | | |
| | Domestic violence | 10 | | |
| Injuries | Fracture | 30 | < 0.05 | |
| | Dislocation | 19 | | |
| | Anterior cruciate ligament injuries | 11 | | |

Table II shows that etiology was road traffic accident(RTA) in 32, fall in 18 and domestic violence in 10patients. Injuries were fracture in 30, dislocation in 19 and anterior cruciate ligament injuries in 11patients. The difference was significant (P < 0.05).

DISCUSSION

The knee is a very complex structure, and it is considered one of the largest joints in our body. Patellofemoral pain syndrome (PFPS) is one of the most common causes of knee pain. It can be defined as pain behind the patella that presents on a flexed knee while performing specific activities that put a weight-bearing load on the patellofemoral joint.7 It is usually more prevalent in females, and it also tends to affect adolescents, athletes, and active adults. Unfortunately, this condition can restrict their daily living by trying to avoid activities that aggravate their pain.^{8,9} At the same time, 40% to 57% of patients do not exhibit favorable long-term outcomes. Variations in reported incidence and prevalence may be due to differing populations assessed, inconsistencies in the diagnosis and lack of high quality evidence on which to base assessment.^{10,11} PFP is thought to affect the general population and more specifically adolescents, young active adults, elite athletes and military recruits; with higher incidence and prevalence rates often cited among females. There is no definitive gold standard method to clinically diagnose PFP. Diagnosis has historically been based on detailed subjective and objective assessments, with pain on a number of special tests including the patellofemoral compression test, palpation of the patella and pain of resisted knee extension.^{12,13}The present study was performed to evaluate cases of patellar injuries.

We found that out of 60 patients, males were 32 and females were 28. Oei and colleagues¹⁴ combined 29 studies from 1991 to 2000 that evaluated the validity of MRI with respect to miniscule and crucial ligament disorders of the knee. The pooled sensitivity of medial and lateral menisci was 93% and 79% while pooled specificities were 88% and 95% respectively. For ACL and PCL tear, pooled sensitivities and specificities were 94%, 91% and 94%, 99% respectively.

We observed that etiology was road traffic accident (RTA) in 32, fall in 18 and domestic violence in 10 patients. Injuries were fracture in 30, dislocation in 19 and anterior cruciate ligament injuries in 11 patients. Callaghan et al¹⁵, of the papers retrieved, 40 cited some sort of percentage figure or a ratio for the incidence or prevalence of PFPS. An incidence rate for PFPS of 25% (or 1:4) was cited in 13/40 papers, but other incidence rates cited ranged from 3% to 40%. There seemed to be 4 key references that other authors used to substantiate their cited values for

PFPS prevalence or incidence or rate. There were no epidemiological papers studying the incidence or prevalence of PFPS in the United Kingdom.The evidence for the cited incidence of PFPS or anterior knee pain in the adult general population is taken almost entirely from source data in the sports medicine or the military settings. Of these, only one was set in the United Kingdom. They conclude that the prevalence of PFPS in the United Kingdom has not been properly evaluated and consequently there is clearly a need for a study on the incidence rates of PFPS in this country's general population.

The role of MRI has steadily increased and now it has become the investigation of choice for most of the lesions of knee. It is also being used for pre-and post-operative evaluation. It is a non-invasive technique that does not require contrast administration and is not operator dependent.^{16,17}

CONCLUSION

Authors found that in maximum cases, fracture was seen followed by dislocation and associated injuries such as anterior cruciate ligament injuries.

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