

ORIGINAL ARTICLE

Assessment of cases of Anterior cruciate ligament injury- A clinical injury

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ABSTRACT:

Background: The knee joint is a common site of injury, mainly due to trauma, repetitive activities and sports activities. The present study was conducted to assess cases of ACL injury. **Materials & Methods:** The present study was conducted on 46 patients of both genders. A careful examination was done in all patients. Associated injury, type of injury and complications were recorded. **Results:** Out of 46 patients, males were 30 and females were 16. The type of injury was acute in 26 and chronic in 20 cases. 5 had complications and 41 had no complications. Lyshom score was 98.4 and pivot shift was positive in 10 patients. The difference was significant ($P < 0.05$). **Conclusion:** Authors found that maximum number of injuries was seen in males. Pivot shift was seen in 10 patients.

Key words: ACL, Ligament, Pivot

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INTRODUCTION

The knee joint is a common site of injury, mainly due to trauma, repetitive activities and sports activities. Disruption of the anterior cruciate ligament (ACL), a major stabilizer of the knee, leads to loss of stability of the knee and potentially significant dysfunction; although the ACL is the most frequently torn ligament of the knee, the ACL tear has remained clinically elusive.¹ Additionally, ruptures near the insertion of ligaments may be missed and magnetic resonance imaging (MRI) examination reveals an intact ACL. The accuracy, sensitivity and specificity values for knee lesions vary widely in literature².

Management of patients with injuries to the anterior cruciate ligament (ACL) of the knee has become one of the most studied topics in musculoskeletal medicine and rehabilitation. Estimates are that approximately two million people worldwide experience ACL injuries annually. Although precise data are not available, an estimated 125,000 to 200,000 ACL reconstructions annually occur in the United States alone.³

Children and adolescent athletes account for 0.5% to 3.0% of all ACL injuries and the rate at which these injuries are occurring in these populations is increasing. American football athletes are known to have the greatest relative risk for sustaining knee injuries, followed closely by girl's soccer. When ACL injuries are specifically considered, however, girl's sports of soccer, basketball, and volleyball all have a higher rate of injuries proportionally than football.⁴ The present study was conducted to assess cases of ACL injury.

MATERIALS & METHODS

The present study was conducted in the department of Orthopedics. It comprised of 46 patients of both genders. The study protocol was approved from institutional ethical committee. All patients were informed regarding the study and written consent was obtained.

General information such as name, age, gender etc. was recorded. A careful examination was done in all patients. Associated injury, type of injury and complications were recorded. Results were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 46		
Gender	Male	Female
Number	30	16

Table I shows that out of 46 patients, males were 30 and females were 16.

Graph I

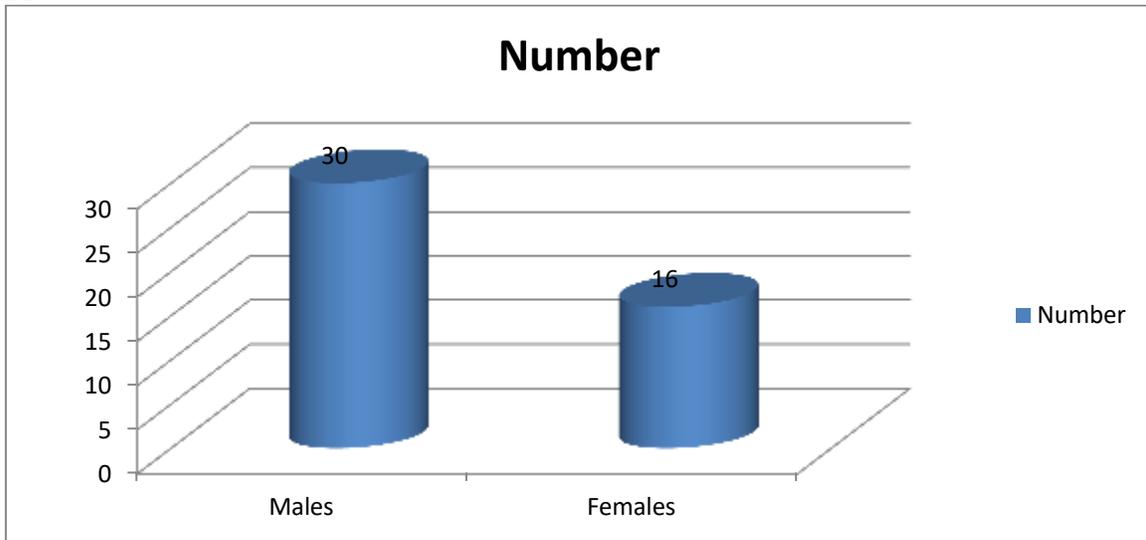
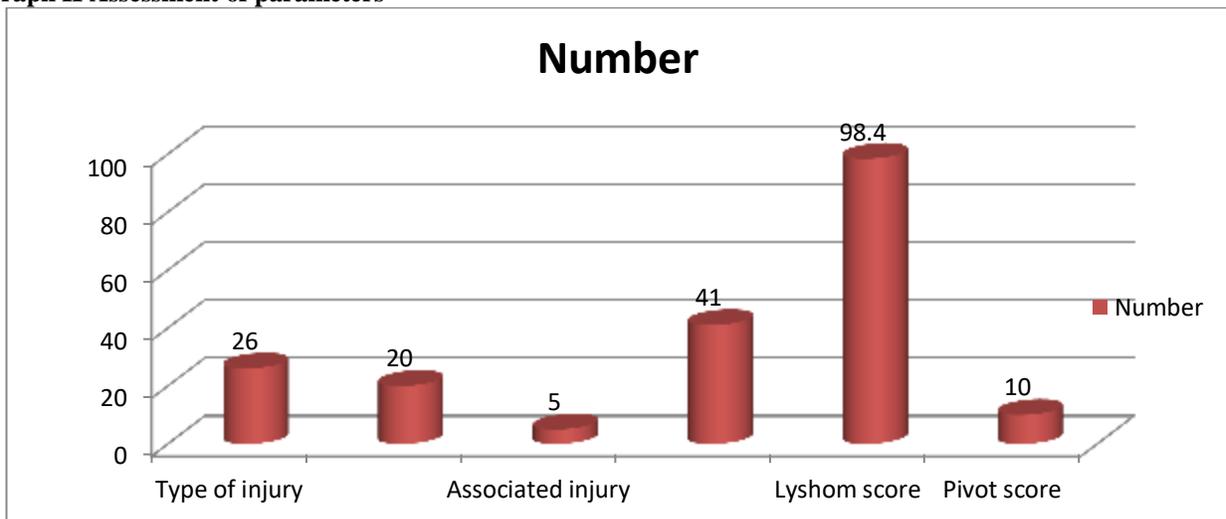


Table II Assessment of parameters

Parameters		Number	P value
Type of injury	Acute	26	0.78
	Chronic	20	
Associated injury	Yes	5	0.01
	No	41	
Lyshom score		98.4	
Pivot score		10	

Table II, graph II shows that type of injury was acute in 26 and chronic in 20 cases. 5 had complications and 41 had no complications. Lyshom score was 98.4 and pivot shift was positive in 10 patients. The difference was significant ($P < 0.05$).

Graph II Assessment of parameters



DISCUSSION

The advanced modality in the management of internal derangement of knee joint is arthroscopy, which can be used in its dual mode, either as a diagnostic and/or as a therapeutic tool. Arthroscopy offers direct visualization of all intra-articular structures with high diagnostic accuracy, the possibility of examining the stability of the knee under anaesthesia and the possibility of performing a therapeutic procedure in the same session.⁵

Initial evaluation of a knee with multiple ligament injuries begins with a thorough and complete neurovascular examination, an assessment of the soft tissue, and determination of the instability pattern. Failure to recognize a vascular injury can lead to catastrophic limb dysfunction and ultimately to amputation. Injury to the tibial and/or peroneal nerves can also have devastating consequences and is encountered in almost 25% of dislocated knees. The modified Schenck classification, in which not only ligamentous structures but also neurovascular injury and the presence of periarticular fracture are taken into account, is widely used to describe these injuries.⁶ The present study was conducted to assess cases of ACL injury.

In this study, out of 46 patients, males were 30 and females were 16. Heming et al⁷ found that of 103 patients with knee problems arthroscopy ACL tears was diagnosed in 73. All these patients underwent therapeutic arthroscopic knee surgery. The clinical diagnosis was evaluated and confirmed during this procedure. The accuracy, sensitivity and specificity were calculated based on these arthroscopic findings. The MRI accuracy of clinical diagnosis in our study was 82.5% for ACL tears. Accuracy for two of three clinical examination tests of clinical diagnosis in study was 96% and 94% for ACL tears. Anatomical studies have shown that the positioning of the tunnel through this technique is not at the center of the ACL origin; other biomechanical and clinical studies show advantages regarding achieved stability with a more anatomical positioning of the femoral tunnel. There are some advantages to each technique.⁸ Among the advantages of the transtibial technique, it can be mentioned that no lateral incision is required in the distal thigh, an iso-metric position is obtained, and the femoral tunnel is in the same orientation as the tibial tunnel. The transportal technique achieves an anatomical femoral tunnel, independent tunnels, non-divergence in the placement of the femoral interference screw, and better rotational stability. The advantages of the outside-in technique include the anatomical positioning of the femoral tunnel, better rotational stability, no risk of

posterior wall rupture, and less divergence of the tunnels when compared the transportal technique.⁹

We found that type of injury was acute in 26 and chronic in 20 cases. 5 had complications and 41 had no complications. Lyshom score was 98.4 and pivot shift was positive in 10 patients. Lyshom et al¹⁰ found that higher number of complications were observed in the medial transportal technique ($p = 0.033$). There were no statistically significant differences in the clinical results of patients undergoing reconstruction of the anterior cruciate ligament by transtibial, medial transportal and outside-in techniques.

CONCLUSION

Authors found that maximum number of injuries was seen in males. Pivot shift was seen in 10 patients.

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