Management of Multiple Ligamentous Knee Injuries

Essay

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Abstract

The multiple-ligament injured knee is a complex problem in orthopedic surgery. It may present as acute knee dislocation and careful assessment of the extremity's vascular status is essential because of the possibility of arterial and/or venous compromise. These injuries requires a systemic approach for evaluation and treatment .The physical examination is important to determine the extent and pattern of injury, as well as to recognize potentially limb-threatening injuries that may require emergent intervention. Imaging studies enable the surgeon to make a correct diagnosis and formulate a treatment plan. Although most patients are surgical candidates, the decision to proceed with operative management is patient dependent and multiple factors must be considered. The goals of rehabilitation are to protect the repair and facilitate functional knee motion and strength.

Key words:

Knee dislocation, multiple ligament injury, vascular injury, Arthroscopic reconstruction, Allograft.

DEDICATION

To

My parents,

My Wife

Acknowledgement

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Ramy Refaat Naeem

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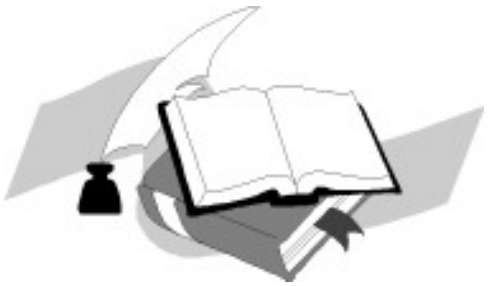
List of Abbreviations

ABI	Ankle Brachial Index
ABPI	Ankle Brachial Pressure Index
ACL	Anterior Cruciate Ligament
AL-bundle	Antero-Lateral bundle
BAPS	Biomechanical Ankle Platform System
BW	Body Weight
CT	Computed Tomography
d-MCL	Deep Medial Collateral Ligament
EUA	Examination Under Anesthesia
h.	hours
HO	Heterotropic Ossification
IT band	Ilio.Tibial band
KD	Knee Dislocation
LCL	Lateral Collateral Ligament
LFC	Lateral Fermoral Condyle
MCL	Medial Collateral Ligament
MFC	Medial Femoral Condyle
MRI	Magnetic Resonance Image
PCL	Posterior Cruciate Ligament
PLC	Posterolateral Complex
PM-bundle	Postero-Medial bundle
PMC	Posteromedial Complex
PREs	Progressive Resistance Exercises
ROM	Range Of Movement
s-MCL	Superficial Medial Collateral Ligament

Introduction and Aim of the Work



INTRODUCTION

The ligaments of the knee are the primary static stabilizers of the joint and can be divided into internal and external ligaments. The internal cruciate ligaments, consisting of the anterior cruciate ligament (ACL) and the posterior cruciate ligament (PCL), are the most commonly involved in a multiligamentous knee injury. [1]

A multiligamentous knee injury usually occurs after a significant force is applied to the knee resulting in a knee dislocation. The knee may have spontaneously reduced and may not demonstrate radiographic evidence of a dislocation at initial presentation. Because these injuries typically involve a high energy mechanism, the physician evaluating the patient must have a high index of suspicion for additional trauma, especially involving the contralateral lower extremity. Neurovascular injuries commonly occur in the multiple ligament-injured knee, and a detailed assessment of these structures is imperative. [2]

The incidence of knee dislocation is difficult to quantify. Knee dislocations may be easily missed, especially if one has spontaneously reduced. Numerous retrospective studies have attempted to evaluate the true incidence. Estimates indicate that approximately 0.01% or less of all hospital admissions are attributable to knee dislocations. [3]