

Does the Surgical Delay Before an Anterior Cruciate Ligament Reconstruction in Adolescents Affects the Quality of Life at a Minimum of 2 Year Follow-Up?

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Summary:

In our adolescent population cohort, long delay before ACL reconstruction is associated with more meniscal and cartilage damages at time of surgery. Long surgical delay seemed also related to a poorer outcome in activities of delay living measured by the KOOS score. These results emphasize the importance to improve the access to operative room for ACL injuries among this population.

Abstract:

INTRODUCTION

The delay before anterior cruciate ligament (ACL) reconstruction surgery is known to have an impact on meniscal and cartilage injury severity at the time of surgery. Furthermore, the severity of intra articular injuries at time of surgery can leads to lower quality of life scores. Not every country have an easily access to operating room to minimize surgical delays especially in an adolescent population.

OBJECTIVES

The main objective of this study was to assess the impact of the surgical delay on the quality of life score in an adolescent population. The secondary objective was to evaluate the impact of the surgical delays on meniscus and cartilage injury at time of surgery in the same population.

METHODS

This retrospective cohort study was conducted in a pediatric tertiary hospital care. Every ACL reconstruction surgeries were retrieved from a database between January 2004 and December 2011. All medical records were reviewed to collect the following information: demography, BMI, ages at time of injury and surgery, surgical delay, operative findings (meniscus and cartilage status). All patients were then contacted and asked to participate to this study by filling out the KOOS questionnaire. The preliminary statistical analysis consisted of correlation analysis to evaluate the effect of surgical delay on the five different KOOS scores and between surgical delay and intra articular injuries at time of surgery.

RESULTS

Ninety-three patients (43 girls) were recruited in this cohort and analyzed. for the secondary objective. The mean age at surgery and at followup were $15,7 \text{ y} \pm 1,9$ and $4,7 \text{ y} \pm 1,9$, respectively. Twenty-nine were then successfully contacted and accepted to answer the questionnaire. There was no statistical difference between the responding patients and the non responding ones except for the follow up time from surgery which was longer in the non responding group (48 vs 60 months).

There was a negative association between surgical delay and ADL-KOOS score ($r=-0.620$, $p<0.05$). A significant association between surgical delay and severity of medial meniscus injury and lateral femoral condyle cartilage injury, respectively $r=0.394$ ($p<0.05$) and $r=0.215$ ($p=0.039$) were also shown.

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DISCUSSION AND CONCLUSION

The results of this study suggested that a longer delay before surgery is associated with more meniscal and cartilage damages at time of the ACL reconstruction surgery (n=93). At a mean follow up, a longer surgical delay seemed to be related to a poorer outcome in activities of daily living measured by the KOOS score. These results emphasize the importance to improve the access to operative room for ACL adolescent reconstruction surgery in order to improve the outcome of this surgery.