

Treatment of Acute Knee Dislocations using Artificial Ligaments

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Abstract

Introduction:

The optimal treatment method for cruciate ligament reconstruction in knee dislocations remains to be defined.

Purpose:

To evaluate the functional and objective results of ligament reconstruction with synthetic ligaments in acute knee dislocations.

Significance: This is the first reported use of this technique in knee dislocations and the largest series of operatively treated knee dislocations reported in the current literature.

Methods:

We reviewed 27 acute knee dislocations operated on by the same surgeon. All patients had reconstruction of both their cruciate ligaments with LARS artificial ligaments via an open arthrotomy technique. The patients were assessed using the Lysholm-Tegner scale and physical examination. Stability of the reconstructed cruciate ligaments was evaluated with radiolaximetry using TELOS instrumentation.

Results:

Average follow-up was 24 months. Surgery was performed on average at 10.9 days post injury. Twenty-five ACL and 27 PCL were reconstructed with LARS. The average ROM and flexion contracture were 116° and 2° respectively. Four knees required arthrolysis to regain functional ROM. The average combined Lysholm-Tegner score was 76. Average anterior and posterior laxity expressed as side to side difference were 4.7 mm and 6.9 mm respectively. There was no statistically significant change in either cruciate laxity or Lysholm score with time.

Discussion:

Our data show that patients treated by this method can regain a functional knee with regard to range of motion and functional status. Our instrumented Radiological evaluation of AP laxity that seems slightly greater does not allow us to compare our results with those of most published reports for bicruciate reconstruction with allografts or autografts as none of them used the same accurate evaluation. However there was no correlation between radiologic instability and functional outcome.

Conclusion:

Artificial ligament reconstruction of both cruciate ligaments is an appropriate treatment option for knee dislocations. Although it needs further study, in the future this might become the treatment of choice for these injuries.

Other reconstructions such as MCL, postero lateral corner etc. were probably performed in these knee dislocations and should be mentioned.