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Delay in Surgery Increases Rotational Instability in Patients Suffering from Anterior Cruciate Ligament Deficiency

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Introduction: Rotational stability of knee is contributed by both central (anterior cruciate ligament [ACL]) and peripheral structure. In chronic ACL deficiency, peripheral structures can be stretched out. It is hypothesised that delay in surgery can lead to increased rotational instability. The hypothesis was tested in an ACL reconstruction (ACLR) registry.

Methods: The results of 301 primary ACLR (209 single-bundle and 92 double-bundle) performed between 2007 and 2012 were analysed. The prospective data collected in this registry included demographic data, duration between injury and index operation, examination under anaesthesia (EUA) findings, preoperative and postoperative International Knee Documentation Committee score and Tegner score, physical examination findings, and KT-1000 results. The cutoff point in delay in surgical intervention was determined using receiver operating characteristic curve method. Potential association between surgical delay and EUA laxity was determined using Chi-square test.

Results: Patients with a delay in operation of more than 7 months were found to have more EUA laxity ($p < 0.001$). Besides, 45 patients were found to have grade 3 pivot shift phenomenon. Patients with a grade 3 EUA pivot shift were more prone to have significant pivot shift immediately after ACLR ($p < 0.001$), as well as 12 months ($p = 0.001$) and 24 months post-operation ($p = 0.007$), regardless of the method of ACLR.

Discussion and Conclusion: Surgical delay in ACLR led to grade 3 pivot shift phenomenon in more than 20% of patients. It was associated with early recurrence of rotational laxity after ACLR. Additional extra-articular lateral tenodesis may need to be considered in these patients.

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Posteromedial Portal: Is It Necessary in Knee Arthroscopy?

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Introduction: Anterior portals are standard portals for knee arthroscopy. However, even with special manoeuvres, it is difficult to visualise the posteromedial corner of the knee joint, especially the most peripheral region of the posterior horn of medial meniscus.

Materials and Methods: From January 2010 to July 2013, 94 cases of arthroscopic knee surgery with the utilisation of the posteromedial portals were performed. Our indications of posteromedial portals included: (1) medial meniscus injury shown in magnetic resonance imaging (MRI); (2) clinical symptoms or signs of medial meniscus injury; (3) clinical symptoms or signs of loose body; and (4) posterior cruciate ligament (PCL) injury shown in MRI. Clinical data of these cases were retrospectively reviewed.

Results: Of these 94 cases, 21 (22%) were repairable tears at the peripheral zone of the posterior horn of medial meniscus. These tears were not visualised and identified by standard anterior portals alone. They were repaired by all-inside method by Spectrum and PDS sutures through the posteromedial portals. Other utilisation of the posteromedial portals included posteromedial loose body removal, PCL reconstruction, PCL stump debridement, and Baker's cyst decompression. There was only 1 case of temporary sinus at the posteromedial portal. Otherwise there was no complication such as wound infection or neurovascular damage.

Discussion and Conclusion: In our case series, there was a significant proportion that the medial meniscus tear could only be visualised through the posteromedial portals, but not from standard anterior portals. We therefore advocate the use of posteromedial portals to complete the examination of medial meniscus.