The unstable joint and its influences on cartilage repair

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What about a ruptured ACL and concomitant cartilage injuries? Hjelle at al. looked upon 1000 arthroscopies and found that chondral or osteochondral lesions (of any type) were found in 61% of the patients. Focal chondral or osteochondral defects were found in 19% of the patients and a concomitant meniscal or anterior cruciate ligament injury was found in 42% and 26% respectively. The mean chondral or osteochondral total defect area was 2.1 cm. Subsequently, it is quite common to find ACL injured knees with concomitant cartilage injuries. Furthermore, the natural history of ACL disruption seems to be evolving toward degeneration of all the compartments of the knee, including the femoropatellar compartment. The incidence of severe articular cartilage lesions in patients with an acute ACL rupture is 16% to 46%. An increasing treatment delay, up to 3 years, after an ACL injury may lead to a higher incidence of articular cartilage and meniscal lesions in both an athletic and nonathletic cohort. Therefore, detection and direct treatment of ACL lesions are very important. Cartilage lesions that are found together with other injuries have to be related to the severity of the other injury/injuries. If the cartilage lesions are suspected to be part of the symptomatology, they are treated the same way as the isolated lesions. If instability is the major symptom from an ACL deficient knee with small to medium size cartilage lesion without subchondral reaction, such a lesion may be left untreated. If however, the joint besides the ACL injury also has a major loss of the menisci and a cartilage lesion with instability and pain, the evaluation and decision is more difficult. Without damaged cartilage, such a knee joint might function well without ACL reconstruction and meniscal grafting. Instead, with all three areas destroyed, the joint is in danger to develop into OA. In such a situation, the cartilage lesion treatment may need to be supported by the meniscal and ACL grafting at the same time for a maximal protection of injured articular joint. Amin et al. have also shown that the combined treatment of articular cartilage lesions and ACL ruptures resulted in better clinical improvement compared to cartilage repair with ACI following previous ACL reconstruction.
Anterior cruciate ligament (ACL) injury can lead finally into a degenerative joint disease. An important question is if ACL reconstruction alters this progression at long-term follow-up. Another question is if early repair reduces the risk of OA development. Drogset et al (2006) reported that in patients undergoing ACL-reconstruction within 2 weeks after injury the prevalence of OA after 16 years was 11%. Drogset et al. (2002) also showed in another study that the prevalence of OA was 50% after 8 years in patients undergoing ACL reconstruction at average 3.5 years after injury. They also reported that patients with a cartilage injury detected at the ACL reconstruction were more likely to develop OA later. The conclusion is that ACL injuries with concomitant cartilage injuries are bad combinations and with an additional meniscal injury, the cartilage is in real danger.

References:


