

Histologic Assessment of Acetabular Labrum Healing

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Summary:

The purpose of this study was to histologically examine the human healing response of arthroscopically repaired acetabular labrum tears. It was shown that human labral tears show healing potential after surgical repair.

Abstract:

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Methods:

Biopsy specimens were retrieved from 6 patients during total hip arthroplasty after clinical failure of the index arthroscopic procedure. All patients were diagnosed as having femoroacetabular impingement with a concomitant labral tear. In all cases severe chondral damage was observed during arthroscopy (Beck grade 3 to 4). Despite successful technical repair of the labral tear, chondral damage in these patients was so advanced that the clinical progress after the procedure was unsatisfactory and arthroplasty of the joint was required. Biopsy specimens of the repaired acetabular labra were harvested during the arthroplasty surgery and processed for standard histologic evaluation.

Results:

Macroscopically and histologically, all repaired labra kept their triangular shape more or less and appeared to have healed. All harvested biopsy specimens displayed a typical fibrocartilaginous appearance with limited vascular supply. Calcifications were present in only 1 biopsy specimen. In 3 cases neovascularization of the labral tissue was noticed in the proximity of the sutures. In the superficial and deep parts of the labral body, small clefts were observed in all cases.

Conclusions:

In this study the histologic aspects of arthroscopically repaired human labral tears were addressed. It was shown that human labral tears show healing potential after surgical repair. The surfaces of the labral tissues were intact, and neither remnants of the tear nor the presence of fibrovascular scar tissue was observed. However, some small clefts in the superior and deep parts of the repaired structures were noticed in all cases.