



Can we obtain hyaline cartilage with currently available techniques?

Mevcut yöntemler ile hiyalin kırkırdak elde edebiliyor muyuz?

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The treatment of cartilage defects of the joints is still controversial. The most commonly used techniques yield cartilage that lacks identical histological and biomechanical properties of the original. Arthroscopic subchondral drilling, abrasion arthroplasty, microfracture, and repairs using a carbon fiber matrix all promote fibrocartilage development. Osteochondral autografts, periosteal arthroplasty, and autologous chondrocyte implantation (ACI), with or without biodegradable materials, promote repair tissue development that resembles hyaline cartilage.^[1-5]

New generation ACIs with a collagen membrane (second generation), or with cells on a carrier, matrix-induced ACI (third generation) have been presented.^[6,7] However, seeded cells behave in different ways depending on how healthy or old they are.^[8] Scaffold material or design (sheet or plug), perfusion and cyclic compression are critical issues for a better outcome.

Objective or subjective evaluation of outcome is still an important problem. Due to ethical issues, it is difficult to take tissue samples for histological examination following cartilage repair, if the patient has no symptoms. Additional information about cartilage can be obtained with new magnetic resonance imaging techniques like T2 mapping.^[9] Ultrastructural composition can be obtained using T2 mapping comparing cartilage T2 values of the repair tissue.

We can not obtain original hyaline cartilage with currently available techniques. Further inves-

tigations with longer follow-up and better evaluation are necessary.

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