

Valgus External Rotation Stress View – A New Radiographic Method for Objective Documentation of Posterolateral Rotary Instability of the Knee

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서론

Several physical examination techniques have been described in the diagnosis of the posterolateral rotary instability (PLRI) of the knee, but widely accepted radiographic method for objective documentation of this injury has not been established. The purpose of the present study was to introduce a new radiographic method, named valgus external rotation stress view, for objective documentation of the PLRI and to evaluate its efficacy.

재료 및 방법

Three groups including patient group with PLRI (12 subjects), control group (12 subjects) and patient group with posterior cruciate ligament (PCL) injury alone (5 subjects) were examined with the dial test at 30 degrees of knee flexion and the valgus external rotation stress view. In the stress view, the degree of lateral displacement of tibial plateau relative to distal femur was measured, and then side to side difference of displacement between injured knee and the uninjured contralateral knee was calculated.

결과

In the knee with PLRI, two characteristic features were found in the stress view; increased lateral translation of the proximal tibia and narrowing of the lateral joint space. The side to side differences of displacement in the stress views were significantly larger in the PLRI group than those in the control group (5.7 mm vs. 0.8 mm on average; $p=0.001$). In patients with PCL injury alone, relative narrowing of the lateral joint space was observed without exception, but the side to side difference of displacement in the stress view did not exceed 2.0 mm (1.4 mm on average). In the PLRI group, the degree of the side to side difference in the stress view had significant correlation with that in dial test at 30 degrees of flexion.

결론

This study suggests that the valgus external rotation stress view is a practical and a valuable method for objective documentation of the PLRI of the knee.