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Titel des Beitrags:
Patients with intolerance reactions to total knee replacement: combined assessment of allergy diagnostics, periprosthetic histology, and peri-implant cytokine expression pattern.

Abstract:
We performed a combined approach to identify suspected allergy to knee arthroplasty (TKR): patch test (PT), lymphocyte transformation test (LTT), histopathology (overall grading; T- and B-lymphocytes, macrophages, and neutrophils), and semiquantitative Real-time-PCR-based periprosthetic inflammatory mediator analysis (IFN?, TNF?, IL1-?, IL-2, IL-6, IL-8, IL-10, IL17, and TGF?). We analyzed 25 TKR patients with yet unexplained complications like pain, effusion, and reduced range of motion. They consisted of 20 patients with proven metal sensitization (11 with PT reactions; 9 with only LTT reactivity). Control specimens were from 5 complicated TKR patients without metal sensitization, 12 OA patients before arthroplasty, and 8 PT patients without arthroplasty. Lymphocytic infiltrates were seen and fibrotic (Type IV membrane) tissue response was most frequent in the metal sensitive patients, for example, in 81% of the PT positive patients. The latter also had marked periprosthetic IFN? expression. 8/9 patients with revision surgery using Ti-coated/oxinium based implants reported symptom relief. Our findings demonstrate that combining allergy diagnostics with histopathology and periprosthetic
cytokine assessment could allow us to design better diagnostic strategies.