



Arthritis News

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PRELIMINARY DATA SHOWS TNF INHIBITOR THERAPY MAY INCREASE RISK OF SERIOUS POST-OPERATIVE INFECTION

SAN ANTONIO, TEXAS—TNF inhibitor therapy, which has proven successful in reducing inflammation in patients with rheumatoid arthritis, may increase the risk of serious post-operative infections when taken prior to orthopedic surgery, according to research presented this week at the American College of Rheumatology Annual Scientific Meeting in San Antonio, Texas.

Genetically-engineered, or biologic, tumor necrosis factor (TNF) inhibitors suppress the TNF proteins that cause joint inflammation, a beneficial therapy in the day-to-day lives of many arthritis patients. However, because the same TNF protein also plays a key role in suppressing infections with certain bacteria in the body, continued use of TNF inhibitors prior to surgery could increase the risk of many types of infections, such as septic arthritis, osteomyelitis or deep wound infection, following surgery.

To assess this post-operative risk, researchers evaluated the outcome of 91 rheumatoid arthritis patients, average age 59.5 years, who underwent bone or joint surgery between January 1, 1999 and March 15, 2004. Patients who developed deep bone or soft tissue infections within 30 days after surgery were identified and their medications were reviewed.

Of 35 patients receiving treatment with a TNF inhibitor at the time of surgery, seven developed a post-operative infection. In contrast, only three of 56 patients not receiving a TNF inhibitor at the time of surgery developed an infection. TNF inhibitor use was associated with a four-fold increase in risk for infection.

TNF inhibitors such as etanercept, infliximab and adalimumab can be discontinued and restarted without impairing the health of patients. However, since each drug has a distinct half-life, patients should ask their physician for pre-surgery guidelines.

“These data are preliminary,” said Joan M. Bathon, MD, Johns Hopkins Arthritis Center, Johns Hopkins University, Baltimore, Maryland, and an investigator in the study. “However, because postoperative infections can be devastating and life threatening, a cautious approach in discontinuing TNF inhibitors prior to bone and joint surgery seems prudent.”

The American College of Rheumatology is the professional organization for rheumatologists and health professionals who share a dedication to healing, preventing disability and curing arthritis and related rheumatic and musculoskeletal diseases. For more information on the ACR’s annual meeting, see www.rheumatology.org/annual.

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Editor’s Notes: Dr. Bathon will present this research during a scientific session at the ACR Annual Scientific Meeting from 3:15–3:30 PM CT (4:15–4:30 PM ET) on Wednesday, October 20, in Ballroom A of the Henry B. González Convention Center. She will be available for media questions during a briefing at 8:30 AM CT (9:30 AM ET) on Tuesday, October 19, in the on-site Press Conference Room, Room 218.

TNF Inhibitor Therapy Increases the Risk of Post-operative Orthopedic Infection in Patients with Rheumatoid Arthritis [RA]

Jon T. Giles, Allan C. Gelber, Shikha Nanda, Susan J. Bartlett, Joan M. Bathon. Johns Hopkins University, Baltimore, MD

PURPOSE: Despite the substantial symptomatic, functional and structural benefit of TNF inhibitor therapy in RA, a heightened risk of infection, particularly from tuberculosis, has been reported. Whether inhibition of TNF- α , which plays a key role in the containment of certain bacteria, increases the risk of early deep infections following orthopedic surgery is unknown.

METHODS: Of 546 consecutive patients fulfilling diagnostic criteria for RA seen more than once between January, 1 1999 to March 15, 2004, 271 were identified from routine questionnaires as having been hospitalized or having undergone a surgical procedure. Complete chart reviews were conducted on these 271 patients, yielding 91 who underwent bone or joint surgery within the study period. Demographic data, perioperative medications (including TNF inhibitors), comorbidities, documented early deep post-operative infections, and perioperative direction to discontinue TNF inhibitors were collected from the patients' charts. Early deep post-operative infection was defined as septic arthritis, osteomyelitis, or deep wound infection in an instrumented bone or joint within 30 days of surgery. The proportion of patients who developed a post-operative infection among those treated with, versus those treated without, a TNF inhibitor was compared using the Fisher's exact test. Odds ratios were calculated to estimate the risk of postoperative infection associated with use of TNF inhibitors, with adjustment for potential confounding parameters.

RESULTS: A total of 91 patients underwent an orthopedic procedure. Mean age was 59.5 + 12.2 years. 77 [85%] were women and 65 [71%] were seropositive for rheumatoid factor. Mean disease duration was 16.4 + 9.7 years. 16 [18%] patients had diabetes. 35 [39%] were treated with a TNF inhibitor [28 etanercept; 6 infliximab; 1 adalimumab] and 39 [43%] with prednisone. Overall, 10 [11%] of these patients developed an early postoperative infection [4 osteomyelitis, 4 septic arthritis, 2 paraspinal abscess]. 7 of 35 patients [20%] treated with, compared to 3 of 56 patients [5%] treated without, a TNF inhibitor developed a postoperative infection [p=0.029].

Model	OR	95% CI
TNF inhibitor, unadjusted	4.4	1.1-18.4
adjusted for age, gender, and disease duration	4.6	1.1-20.0
adjusted for prednisone, diabetes, and RF	5.0	1.1-21.9
adjusted for all above variables	5.3	1.1-24.9

In a sub-analysis of TNF inhibitor treated patients, the effect of perioperative discontinuation of TNF inhibitors on infection risk could not be reliably ascertained due to the limited number of patients receiving discontinuation directions.

CONCLUSIONS: TNF inhibitor therapy was related to an increased risk for early deep post-operative infection. These data suggest the need to abstain from TNF inhibitors during the perioperative period for those patients with RA undergoing orthopedic surgery.

Disclosure: J.T. Giles, None; A.C. Gelber, None; S. Nanda, None; S.J. Bartlett, None; J.M. Bathon, None.