Cancer Risk Doubled in Children With JIA

BY HEIDI SPLETE

FROM THE ANNUAL MEETING OF THE AMERICAN COLLEGE OF RHEUMATOLOGY

ATLANTA – The rate of cancer in children with juvenile idiopathic arthritis in the United States was at least twice as high as was the rate of cancer in children the same age without JIA, but no cancer cases were found among children with JIA who were exposed to TNF inhibitors, based on a review of a nationwide database.

"Since the introduction of TNF inhibitors in clinical practice, there has been concern about an increased risk of malignancy associated with them," said Dr. Timothy Beukelman of the University of Alabama, Birmingham. This concern increased in 2009, when a report from the Food and Drug Administration found a possible association between TNF inhibitors and malignancy in children, he said. The report prompted the FDA to issue a black box warning about the risk of pediatric malignancy from anti-TNF drugs, he said.

But the FDA report compared cancer rates in children receiving TNF inhibitors with children in the general population, which did not account for exposure to other drugs, such as methotrexate, or for possible carcinogenic effects of the JIA disease process itself, said Dr. Beukelman.

"We attempted to fill in some of the gaps in our knowledge regarding a possible background or baseline increased rate of malignancy for children with JIA," he said.

Dr. Beukelman and colleagues reviewed National Medicaid Administrative Claims data for 2000-2005. They identified 7,321 children with JIA and compared them with non-JIA control groups who had diagnoses of asthma or attention-deficit hyperactivity disorder (ADHD). Among the JIA patients, 3,194 were taking methotrexate and 1,413 were exposed to TNF inhibitors.

The standardized rate of any cancer in children with JIA was 59 per 100,000 person-years, compared with 27 per 100,000 person-years and 23 per 100,000 person-years in the control groups with asthma and ADHD, respectively. The standardized rate of leukemia and lymphoma was 25 per 100,000 person-years in the JIA group, compared with 9 per 100,000 person-years in both control groups.

Of note, the researchers found no cases of cancer in more than 1,400 children with JIA who had been exposed to anti-TNF therapy, said Dr. Beukelman said. ■

VITALS

Major Finding: TNF-inhibitor exposure might not be associated with an increased risk of cancer in children with JIA, but more studies are needed.

Data Source: A review of Medicaid data on 7,321 children with JIA.

Disclosures: Dr. Beukelman said that he had no financial conflicts. Some of his coinvestigators have received research grants and consulting fees from multiple pharmaceutical companies including Amgen, Centocor, and Roche.

MRI Scoring System Reliable in Juvenile Arthritis

BY DENISE NAPOLI

FROM THE ANNALS OF RHEUMATIC DISEASES

A new magnetic resonance imaging scoring system is a reliable method for assessing joint damage in patients with juvenile idiopathic arthritis.

The adult-targeted Rheumatoid Arthritis MRI Score, previously considered unusable in children because of the "peculiarities of the growing skeleton," was also moderately well correlated with clinical indicators of disease, wrote Dr. Clara Malattia and her colleagues.

VITALS

Major Finding: A novel system for scoring MRIs in children with juvenile idiopathic arthritis showed significant, moderate correlation (0.47) with the Juvenile Arthritis Damage Index Articular score (*P* less than .0001), as well as a moderate (0.55) significant correlation with the Sharp/van der Heijde score for reading radiographs (*P* less than .0001).

Data Source: A total of 66 consecutively recruited patients with JIA from a single center in Italy.

Disclosures: The authors stated that they had no competing interests in relation to this study.

Dr. Malattia, of the Istituto G Gaslini in Genoa, Italy, and her colleagues looked at 66 patients, of whom 51 were females, who had juvenile idiopathic arthritis involving the wrist.

The patient's clinically more affected wrist was assessed with MRI, radiography, and clinical assessment (Ann Rheum Dis. 2010 [doi:10.1136/ard.2009.126862]).

Bone erosions were scored at 15 sites within the carpus according to a 0-4 scale.

Bone marrow edema was evaluated using a 0-2 scale. Finally, synovitis was assessed using the standard Rheumatoid Arthritis MRI Scoring System.

At baseline, 55 out of the total 66 patients (83.3%) patients had erosions detected by MRI (only 23 of which were detected on radiography). Bone marrow edema was also seen in 55 of the 66 patients (83.3%), and synovitis was detected in 60 of the 66 patients (90.9%).

The pediatric MRI erosion score registered significant, moderate correlation (0.47) with the Juvenile Arthritis Damage Index Articular score (*P* less than .0001), as well as a moderate (0.55) significant correlation with the Sharp/van der Heijde score for reading radiographs (*P* less than .0001). The pediatric MRI bone edema score correlated highly (0.66) with the Sharp/van der Heijde score (*P* less than 0.0001), and registered moderate correlation (0.40) with the JADI-A (*P* = .001).

On the other hand, there was also high correlation (0.66) between the RAMRIS bone marrow edema score and the Sharp/van der Heijde score (*P* less than .0001), as well as between the RAMRIS bone erosion score and the Sharp/van der Heijde score (0.60, *P* less than .0001).

The synovitis score correlated moderately but significantly with the physician's global assessment, the swollen joint count, and the Juvenile Arthritis Disease Activity Score for 71 joints.

Assessment of 39 follow-up MRIs completed a median of 1.2 years after the index scan showed that of the 22 who had improved according to the ACR Pediatric 30 criteria, there was a significant decrease on the pediatric bone marrow edema score, a non-significant decrease in the RAMRIS bone marrow edema score, and a significant, small decrease on the synovitis score. ■

Overall Mortality in Cardiac Neonatal Lupus is 18%

BY SHARON WORCESTER

FROM THE ANNUAL MEETING OF THE AMERICAN COLLEGE OF RHEUMATOLOGY

ATLANTA – The overall case fatality rate in cardiac neonatal lupus is nearly 18%, according to a review of data from the Research Registry for Neonatal Lupus.

Of 325 children enrolled in the large U.S.-based registry before October 2010, 57 (18%) died; 30% died in utero, 30% died during the neonatal period, 14% died between 1 and 6 months of age, and 26% died after 6 months of age, said Dr. Peter M. Izmirly.

Of the deaths, 42 were cardiac related – most often a result of complications from cardiomyopathy, 6 were due to infectious complications, and 8 were a result of unknown causes. One pregnancy was terminated electively, said Dr. Izmirly of New York University, New York.

Of white children with cardiac neonatal lupus, 14% died, compared with 28% of minority children.

The study, which was conducted in an effort to update mortality data on cardiac neonatal lupus and to thereby improve evidence-based counseling of anti-Ro/La positive mothers whose babies are at increased risk of cardiac neonatal lupus, identified fetal and maternal risk factors for death in affected babies.

Significant fetal risk factors for death were associated hematologic hepatic neonatal lupus (present in 27% vs. 7% of deceased vs. living babies), earlier gestational age at detection (detection occurred at 21.8 vs. 23.4 weeks in deceased vs. living babies), delivery prior to 37 weeks' gestation (delivery occurred prior to 37 weeks in 69% vs. 42% of deceased vs. living babies), and earlier gestational week of delivery (delivery occurred at 34.2 weeks vs. 36.9 weeks in deceased vs. living babies), Dr. Izmirly said.

Fetal echocardiographic risk factors associated with mortality were lower ventricular rate nadir (rate was 50.2 vs. 53.6 in deceased vs. living babies), and the presence of endocardial fibroelastosis (which occurred in 30.25% vs. 4.3% of deceased vs. living babies), dilated cardiomyopathy (which occurred in 32.6% vs. 8.6% of deceased vs. living babies), hydrops (which occurred in 57.4% vs. 3.4% of deceased vs. living babies), and valvular disease (which occurred in18.2% vs. 4.8% of deceased vs. living babies).

Fetal echocardiographic factors not associated with mortality were ventricular rate detection, atrial septal defect, ventricular septal defect, and patent ductus arteriosus.

Only one maternal risk factor – a maternal diagnosis of systemic lupus erythematosus or Sjögren's syndrome – showed a trend toward significance in terms of risk for fetal death. Diagnosis occurred in 56% of women whose babies died, vs. 43% of those whose babies were living. ■

VITALS

Major Finding: Of 325 children enrolled in the Research Registry for Neonatal Lupus before October 2010, 57 (18%) died; 30% died in utero, 30% died during the neonatal period, 14% died between 1 and 6 months of age, and 26% died after 6 months of age.

Data Source: A retrospective analysis of data from a large U.S.-based cohort.

Disclosures: No disclosures.