

Ultrasound Finds Early Jaw Changes in JIA Patients

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High-resolution ultrasound may be a useful diagnostic screening method for the evaluation of the temporomandibular joint in patients with juvenile arthritis, Dr. Siegfried Jank and colleagues reported.

Sonographic studies of the temporomandibular joints (TMJs) of 48 patients with juvenile idiopathic arthritis (JIA) demonstrated significant correlations between pathologic findings and both the duration of arthritis and the number of affected peripheral joints, reported Dr. Jank, of the Medical University of Innsbruck (Austria), and his colleagues.

Studies have shown that temporomandibular diseases/disorders (TMDs)—such as clicking, crepitation, and disk dis-

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location—in patients with JIA could lead to more severe symptoms, such as hypoplastic condyles, a convex facial morphology, and retrognathia. To prevent such outcomes, experts agree that therapeutic interventions should be im-

plemented in the early states of a TMD; however, clinical symptoms typically appear late, after the onset of destructive changes, and may be masked by antirheumatic therapies, the authors wrote.

Although MRI is considered the clinical standard in the imaging diagnosis of the TMJ, its high cost and limited availability—as well as the need for anesthesia or conscious sedation, particularly in smaller children—preclude its use as a routine screening method in this population, reported the authors. Because high resolution ultrasound is a quick, inexpensive, and widely available option, the investigators sought to evaluate its potential usefulness in the diagnosis of TMD in JIA patients (Arthritis Rheum. 2007;57:213-8).

Each of the 48 patients with JIA who were enrolled in the prospective study underwent a sonographic investigation by an experienced oral and maxillofacial surgeon, who evaluated destructive changes and disk dislocation in both closed-mouth and maximum open-mouth positions. At the time of the ultrasound examination, the number of affected peripheral joints and the duration of JIA were obtained for each patient. A clinical investigation of the TMJ was also done, and was based on multiple parameters including clicking, crepitation, deviation of the mouth-opening movement, and pain on palpation of the TMJ and/or the mandibular muscles.

An analysis of the sonographic results showed destructive changes of the TMJ in 55% of the patients. From the full study population, 43% had evidence of disk dislocation in the closed-mouth position, including 24% who also had evidence of disk

dislocation in the maximum open-mouth position. Only one of the patients diagnosed with disk dislocation in the maximum open-mouth position did not have evidence of dislocation in the closed-mouth position, the authors reported.

On clinical examination, the most common pathologic findings included history of TMJ lock in the closed-mouth position (12 patients), pain on palpation of the TMJ (11), and crepitation (11), they wrote.

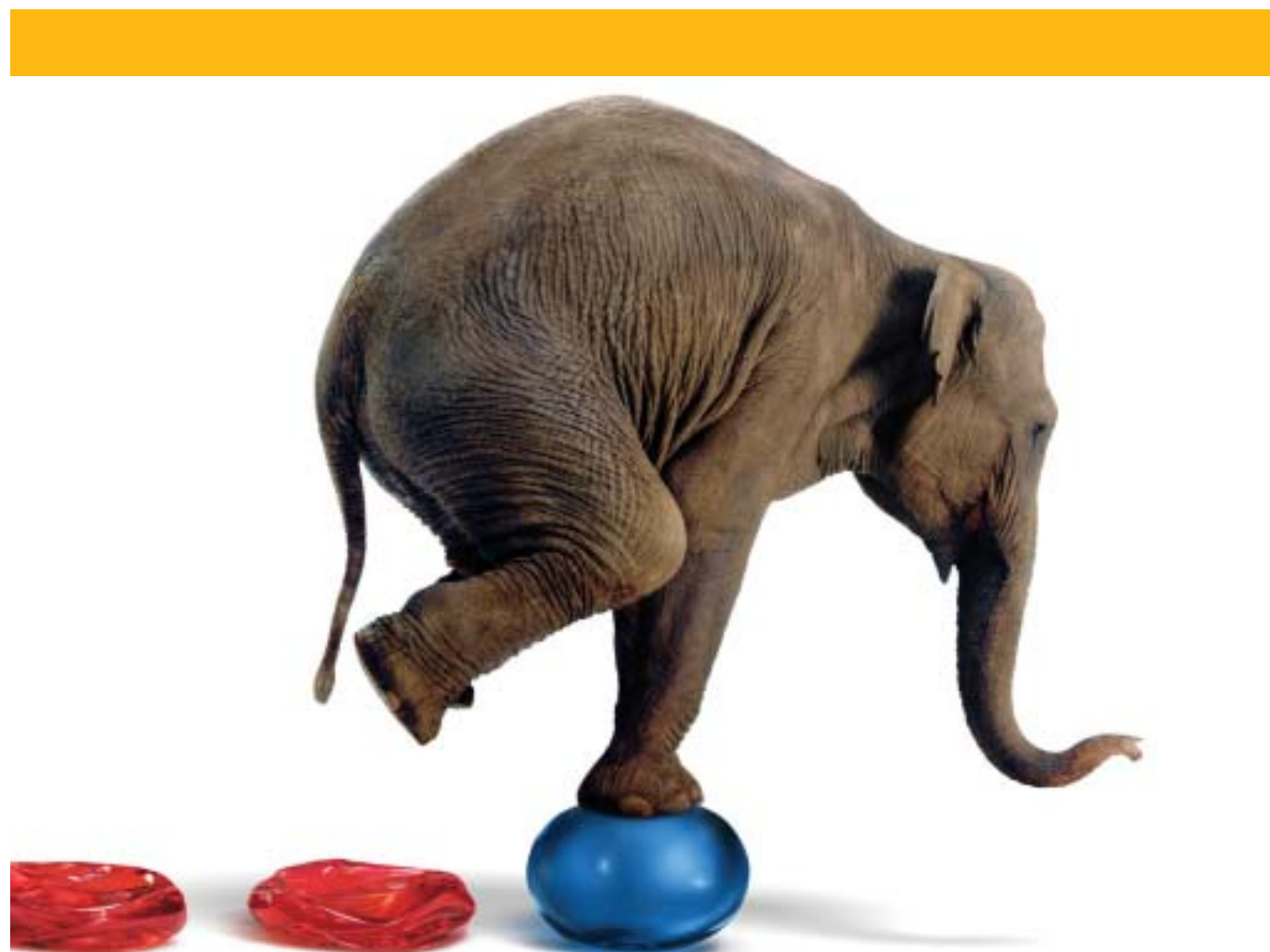
When the sonographic and clinical data

were correlated, there was a significant parallel between ultrasound evidence of destructive changes of the TMJ and patients with more than five peripheral affected joints, and between the number of affected peripheral joints and disk dislocation in the open-mouth position.

In addition, patients with JIA duration longer than 23 months had significantly higher rates of disk dislocation and destruction changes, compared with patients who had shorter disease durations. Simi-

larly, disease duration longer than 60 months was significantly associated with a higher rate of destructive changes—but not with disk dislocation—than were shorter disease durations, they wrote.

The significant correlation between the number of affected peripheral joints and the sonographic evidence of destructive changes and disk dislocation suggests that the imaging method “is able to detect TMD earlier than clinical symptoms appear,” they wrote. ■



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