29. Dittus PJ, Jaccard JJ. Adolescents' perceptions of maternal disapproval of sex: relationship to sexual outcomes. J Adolesc Health 2000;26:268-78.

30. Chu JTW, Farruggia SP, Sanders MR, Ralph A. Towards a public health approach to parenting programmes for parents of adolescents. J Public Health 2012;34(Suppl 1):141-7.

50 Years Ago in *THE JOURNAL OF PEDIATRICS*

The Clinical Significance of Serologic Testing for Juvenile Idiopathic Arthritis: Then and Now

Bluestone R, Goldberg LS, Katz RM, Marchesano JM, Calabro JJ. Juvenile Rheumatoid Arthritis: A Serologic Survey of 200 Consecutive Patients. J Pediatr 1970;77:98-102.

The authors surveyed the frequency of finding positive rheumatoid factor (RF), positive antinuclear antibody (ANA), and immunoglobulin elevations in 200 patients with juvenile rheumatoid arthritis (JRA) from all age groups and subtypes. They found RF in 12% of patients, ANA in 4%, and elevated Immunoglobulin M (IgM), Immunoglobulin A (IgA), and Immunoglobulin G (IgG) immunoglobulin levels in 10%, 17%, and 25%, respectively. The patients with RF and elevated immunoglobulin levels had more severe disease, manifested by hip involvement and poor functional status. The number of patients with a positive ANA, tested on a substrate of human leukocytes, was too small to allow for clinical correlations.

Although the prevalence and clinical associations of RF and immunoglobulin levels are still valid, the authors markedly underestimated the proportion of patients with ANA and thus missed their clinical significance. RF is found in 5%-10% of patients with JRA/juvenile idiopathic arthritis (JIA), primarily among adolescent females presenting with symmetric small joint disease. Essentially, this represents early-onset rheumatoid arthritis (RA). Indeed, this form of JIA is associated with a severe course and poor prognosis and necessitates early initiation of aggressive disease-modifying therapy. In the last 10-15 years, a new class of autoantibodies with greater sensitivity and specificity, often appearing earlier than RF, was discovered among patients with RA (including adolescents with polyarthritis JIA) and introduced to routine clinical care. These antibodies, known as anti-citrullinated protein antibodies, are directed against cyclic citrullinated peptides and are often associated with or triggered by periodontitis or cigarette smoking, risk factors for the development of RA.

Currently, the prevalence of ANA in patients with JIA is approximately 50%. The discrepancy with this report is probably due to the method of detecting ANA, which currently involves indirect immunofluorescence using human epithelial type 2 cells. Other modern methods of detecting ANA by enzyme-linked immunosorbent assay or multiplex protein analysis are fraught with many false-negative results in JIA and are not recommended for use in these patients.

Finding ANA in patients with JIA is of extreme importance. Patients with ANA, especially young females early in the course of disease, are at high risk (up to 30%) of developing uveitis, which is mostly asymptomatic. Thus, they need to undergo regular ophthalmologic slit-lamp screening every 3 months.[1]

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Reference

1. Angeles-Han ST, Ringold S, Beukelman T, Lovell D, Cuello CA, Becker ML, et al. 2019 American College of Rheumatology/Arthritis Foundation guideline for the screening, monitoring, and treatment of juvenile idiopathic arthritis-associated uveitis. Arthritis Rheumatol 2019;71:864-77.