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The anti-neo-epitopes tissue and microbial transglutaminases are new reliable serological markers in celiac disease diagnosis

Due to a low diagnostic rate, changes in phenotype, increased incidence, epidemiological shifts and importance of early implementation of a gluten-free diet to prevent complications, a reliable serological marker for celiac disease (CD) is highly needed. Furthermore, the new 2012 ESPGHAN guidelines for the pediatric diagnosis of CD unraveled and stimulated an old/new discussion on the most efficient bio-marker to screen/diagnose the disease. The plethora of the antibodies is wide, encompassing anti-gliadin (AGA), anti-endomysial (EMA), anti-deamidated gliadin peptide (DGP), anti-tissue transglutaminase (tTg), anti-tTg neo-epitope (tTg-neo), and most recently, the anti-microbial transglutaminase neo-epitope (mTg-neo) antibodies. The AGA are anti-nutrient antibodies and are not reliable for CD diagnosis. EMA is very specific. IgA-tTg is the most frequently used, recommended by ESPGHAN but has multiple false +\- results. IgA-DGP has unacceptable sensitivity. In recent years the IgA-tTg-neo (against the cross-linked complex of tTg and gliadin) appeared to be a very reliable marker for CD3. Checking 17 serological markers, the IgA-tTg-neo and IgG-mTg-neo stood out as very reliable diagnostic markers, reflecting intestinal damage in CD3. The mTg-neo (against the cross-linked complex of mTg and gliadin) is a new biomarker for the CD. At the end of the day, the IgA-tTg-neo has the potential to win the race of the best diagnostic autoantibody for CD. The IgG-mTg-neo is a new marker against an environmental microbial product that is heavily used in the food processing industry. The possibility that mTg represents a potential environmental inducer of CD is currently investigated.

Biography

Lerne Aaron completed his MD from Sackler School of Medicine, Tel-Aviv University in 1976. He did his specialization in Pediatrics in the year 1982, Pediatric Gastroenterology and Nutrition in 1984 and Adult Gastroenterology in 1987. He took several senior positions as Head of Department of Pediatrics from 1995-2005 and Head of Pediatric Gastroenterology and Nutrition unit at Carmel Medical Center, Haifa, Israel. He completed his Medical Management degree (MHA) at Ben-Gurion University, Beer-Sheva, Israel in 1999; spent research sabbaticals at Hahnemann University, Philadelphia, PA, USA in 1991, State University of North Carolina, Chapel Hill, USA in 2005 and currently, in an extended scientific sabbatical in AESKU. KIPP Institute, Wendelsheim, Germany from 2014-16. He has presented numerous international congresses, mainly of pediatrics, nutrition and autoimmunity, published 250 manuscripts in peer reviewed journals and is on the editorial board of 14 international journal.

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