

# This Week's Citation Classic™

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Juhlin L, Johansson S G O, Bennich H, Högman C & Thyresson N.  
Immunoglobulin E in dermatoses: levels in atopic dermatitis and urticaria.  
*Arch. Dermatol.* 100:12-16, 1969.  
[Dept. Dermatology and Blood Center, University Hospital, Uppsala, Sweden]

The serum level of immunoglobulin E was found to be greater than normal in patients with atopic dermatitis. The level was within normal limits in patients with various urticarias and non-atopic skin disorders. [The *SCI*® indicates that this paper has been cited in over 185 publications since 1969.]

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"A new class of immunoglobulins in human serum was described by Gunnar Johansson and Hans Bennich in Uppsala in 1967.<sup>1</sup> It was in the beginning called IgND after the initials of a patient with a myeloma having an earlier unidentified immunoglobulin. It was also found in healthy subjects although in very low levels (-250 ng/ml). At the same time, the Ishizakas<sup>2</sup> in Denver had detected  $\gamma$ E-antibodies as carriers of reaginic activity. At a World Health Organization meeting, it was decided that the E globulins and IgND belonged to a new class of immunoglobulins called IgE.

"Gunnar was at that time working at the Blood Center of the University Hospital where Claes Högman was chief. Hans was the chemist who, together with Gunnar, did the determinations of

IgE. Gunnar had found that IgE was increased in patients with asthma. I was at that time working in the department of dermatology, University Hospital, headed by Nils Thyresson. I was especially interested in patients with atopic dermatitis and urticaria. We often met for lunch in the hospital and it was natural that we should have a look at patients with other atopic disorders such as urticaria and atopic dermatitis. I therefore did a screening of various dermatological disorders and sent the blood samples to Gunnar. The IgE levels were significantly greater than normal in 23 out of 28 patients with atopic dermatitis. Normal levels were obtained from patients with contact dermatitis, various eczema, acute and chronic urticaria, as well as various other dermatoses.

"At the same time, Leif Wide, Hans, and Gunnar also developed a radioallergosorbent test (RAST) with which one could determine specific antibodies belonging to the IgE class. This test is now commercialized by Pharmacia in Uppsala together with kits for determination of IgE. The relation between clinical findings in atopic dermatitis, asthma, and hay fever with number of eosinophils, RAST, intracutaneous test, and IgE levels resulted in a series of papers from Uppsala especially by S. Öhman,<sup>3</sup> T. Foucard,<sup>4</sup> T. Berg,<sup>5</sup> A. Dannaeus,<sup>6</sup> and E. Fagerberg. The reason why our work has been cited frequently is that it was the first on this specific subject.

"For a review of recent findings see 'The clinical significance of IgE' by S.G.O. Johansson."<sup>7</sup>

1. Johansson S G O. Raised levels of a new immunoglobulin class (IgND) in asthma. *Lancet* 2:951-3, 1967. (Cited 320 times.)
2. Ishizaka K & Ishizaka T. Identification of  $\gamma$ E-antibodies as a carrier of reaginic activity. *J. Immunology* 99:1187-98, 1967. (Cited 315 times.)
3. Öhman S & Johansson S G O. Immunoglobulins in atopic dermatitis. *Acta Dermato-Venereol.* 54:193-202, 1974.
4. Foucard T. *Studies on reaginic allergy in vitro and in vivo.* Uppsala: University of Uppsala, 1973. 39 p.
5. Berg T & Johansson S G O. Immunoglobulin levels during childhood, with special regard to IgE. *Acta Paediat. Scand.* 58:513-24, 1969. (Cited 105 times.)
6. Dannaeus A & Inganäs M. A follow-up study of children with food allergy. Clinical course in relation to serum IgE- and IgG-antibody levels to milk, egg and fish. *Clin. Allergy* 11:533-9, 1981.
7. Johansson S G O. The clinical significance of IgE. (Franklin E C, ed.) *Clinical immunology update: reviews for physicians.* New York: Elsevier, 1981. p. 123-45.