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appeared from the central region of Spain but were there associated with gastrointestinal anisakidosis and with raw anchovies in vinegar (69). Moreover, a significant number of fishmongers and fishermen in Italy and African fish-processing workers, as well as 13% of healthy blood donors, are sensitized to this parasite (82, 201, 221). It should be borne in mind, however, that specific immunoglobulin E (IgE) detection by ImmunoCAP assay can overestimate the number of sensitized subjects (165, 167), so the above estimates may be exaggerated. However, there is clearly cause for concern, and a need for

worms), while the nematode's fecundity (egg production) increased (268), consistent with the Th2 response being protective against this nematode in mice. Similarly, in a human immunopathogenesis study of anisakidosis, a Th2 response was found, as indicated by local detection of mRNA for IL-4, IL-5, and eotaxin but without detectable transcripts for IFN-

unpublished data). (Fig. 5). Similar findings have been published by others, and the test discriminated between allergics and controls with a 95 to 100% sensitivity and a 100% specificity (105).

Figure 5 (Audicana and Longo, unpublished) illustrates a cellular phenotype analysis from BAT carried out in 2006 of an anaphylaxis case diagnosed in 1995 (25). IgE was monitored yearly for this patient, and IgE decreased progressively but remained positive for 11 years. During the last test (in 2006), blood samples were also taken for the first time to carry out BAT, and basophil responsiveness was also found to have persisted for 11 years.phenotype and40es3nisakid(fo-33740est)-3340esmohave

derived, two are somatic in origin, and none are associated with the cuticle of the worm (Table 4). Previous reports indicated that antibodies from fully sensitized patients recognize several different allergens in a crude extract by immunoblotting and immunoelectrophoresis (15, 100). This recognition of multiple allergens from a given biological source is now a common finding, such as with grass pollens (272).

site. In these cases, specific IgE determination against the parasite not only cannot be considered to be a reliable indicator of allergy but also can be a confusing factor, since such antibody has been detected in 25% of otherwise healthy controls (27, 83). This is not surprising, since cross-reactivity has also been described for inhalant allergens from a wide variety of sources, and 43% of subjects with positive IgE to pneumoallergens do not present respiratory symptoms (248). Discrimination between n

and *Fasciola hepatica* (liver fluke) have been associated with intravascular lymphomatosis in Japanese patients (reviewed by Aljurf et al. [6]). Studies on carcinogenic mechanisms involving *F. hepatica*-associated cholangiocarcinoma have suggested that NO, which is produced in some antihelminth responses, is both cytotoxic and genotoxic: it is known, for instance, that nitrates, nitrites, and *N*-nitroso compounds present in preserved foods

dicted motifs for HLA DRB_I*0404 (Ani s 2, three sites; Ani s

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