A comparative audit of milk and fish induced Food Protein Induced Enterocolitis Syndrome (FPIES) management

Nikolaos A. Kitsioulis¹, Nikolaos Douladiris¹, Sofia Kostoudi¹, Ioanna Manolaraki¹, Dimitris Mitsias¹, Emmanouil Manousakis¹, Nikolaos G. Papadopoulos¹,², Paraskevi Xepapadaki¹

¹Allergy Department, 2nd Pediatric Clinic, University of Athens School of Medicine, Greece; ²University of Manchester, United Kingdom

Background: FPIES is a non-IgE-mediated food allergy, often unrecognized, attributed to a variety of foods, with cow’s milk (CM) and fish to be considered two of the most common culprit foods.

Aim: To evaluate diagnostic and management procedures in children with FPIES attributed to CM and fish, in a reference Allergy Unit of a tertiary Hospital in Greece.

Methods: This is a retrospective study on records between 10/2010 and 10/2015. Diagnosis was based on self-reported clinical history, however oral food challenges (OFCs) were performed in case of unclear history. Age at diagnosis and resolution of the syndrome were recorded. For the assessment of potential tolerance, OFCs were performed, in a wide range of time, in dependence of patients’ accidental exposures, and not according to conservative approach (every 18-24 months) as recommended.

Results: 47 patients (23 males) were diagnosed with FPIES, 27 to CM and 20 to fish (median age: 5 and 18 months, IQR 2-7 and 12-22.5 respectively). We performed 45 OFCs in total (18 to fish), 41 to evaluate potential tolerance (17 to fish).

As regards OFCs performed to assess potential tolerance, 11 out of 17 (64.7%) OFCs to fish were positive, while corresponding ratio to CM was 4/24 (16.7%).

Median time between diagnosis and OFC was 24 months in total (IQR 16.5-36.7), while regarding patients with negative OFC outcome (tolerance), the corresponding time was 22 months (IQR 15.9-30.4).

In children still with active disease at re-evaluation, it was noted that in respect to fish even though they have been challenged in older age (fish 73.3±25.9 months vs CM 22.6±6.8 months, p=0.002), they had in their majority positive OFCs. A significant association regarding the interval between diagnosis and OFC with OFC outcome (fish 51.1±25.5 months vs CM 14.7±2.2 months, p=0.015) was also noted.

Out of 41 children with FPIES diagnosis at presentation, 63.4% (n=26) were tolerant by means of OFCs (6 to fish). In respect to the interval from diagnosis to tolerance, correlation with food type was noted (fish median 27.7 months, IQR 22-73.5 vs CM median 20 months, IQR 15.1-26.9, p=0.044).

Conclusion: There is heterogeneity in the resolution of FPIES depending on the implicated food. FPIES caused by fish has a delayed remission. It is more cost-effective for both the patients and the medical staff to avoid early OFCs, compared to time of diagnosis, as regards fish or more delayed concerning CM.