

**Behind the scene: Paracetamol hypersensitivity in children.***Pediatr Allergy Immunol.* 2020;00:1–9.

**Background and Aim:** Paracetamol, a non-steroidal anti-inflammatory drug, is commonly being used for fever and pain relief worldwide. The aim of this study was to evaluate children with a suspected history of paracetamol hypersensitivity.

**Methods:** Sixty patients who were referred to our clinic in between January 2015 and December 2018 with a suspected history of paracetamol hypersensitivity were included. Reactions were classified according to the European Network for Drug Allergy (ENDA)/Global Allergy and Asthma European Network classification and European Academy of Allergy and Clinical Immunology (EAACI)/ENDA Position Paper.

Diagnoses were confirmed by skin tests and oral challenge tests (OCTs). In those with verified paracetamol hypersensitivity, an OCT with a strong COX-1 inhibitor was performed to classify the type of the reaction to refer as either selective or cross-intolerance hypersensitivity. A subsequent OCT with a selective COX-2 inhibitor was performed in those cross-intolerant patients to find out a safe alternative drug.

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## Paracetamol hypersensitivity in children

**Results:** Sixty OCTs with paracetamol were performed to patients with a median age of 8.5 years, and hypersensitivity to paracetamol was verified in 8 patients. Four children were classified as selective responders, and 3 were classified as cross-intolerant after OCT with a COX-1 inhibitor. Overall, skin test positivity for paracetamol was detected in only one patient, in whom OCT with paracetamol was negative. In all 3 cross-intolerant patients, a safe alternative non-steroidal anti-inflammatory drug was identified after an OCT with a selective COX-2 inhibitor.

**Conclusions:** OCT stands as the gold-standard procedure in verifying the diagnosis of patients with paracetamol-induced drug hypersensitivity, as well as, in defining the type of reactions and finding out safe alternative drugs.

**Key message:** In this study, children with a suspicion of paracetamol hypersensitivity were evaluated. Hypersensitivity reactions to paracetamol have been generally reported in children as single case reports. Drug allergies are multifactorial and multigenetic. Many risk factors such as age, ethnicity, geographic area, concomitant drug use, concomitant viral infections, and eating habits may affect the type of hypersensitivity reactions. The study was limited by the small patient population to make generalization.

### EXPERT COMMENT

**“Paracetamol hypersensitivity is uncommon and, as a result, may be overlooked as a cause for allergy, which can lead to a significant delay in diagnosis. Though Paracetamol is taken to be a safe drug, awareness and caution is advised for Paracetamol and NSAIDS induced drug reactions.”**

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With warm regards,

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