

Neonatal-Onset Urticaria and Fever

A 4-year-old boy, the third child of nonconsanguineous Italian parents, presented with recurrent episodes of urticarial skin rash, bilateral conjunctivitis, joint pain, and fever (**Figure 1**; available at www.jpeds.com). The family history was unremarkable. The patient was born at 38 weeks after an uneventful pregnancy; a few hours following delivery, urticarial-like lesions were noted on his trunk and limbs. In his first days of life, he also had bilateral conjunctivitis,

arthralgias, and recurrent fevers up to 38°C occurring every 3 weeks and lasting 3 days. His urticaria also recurred in combination with these symptoms despite antihistamines administration. He was hospitalized for a suspected viral pericarditis at the age of 6 months. Physical examination results showed normal growth measurements, and a nonpruritic urticarial rash on his face, limbs, and trunk. Frontal bossing and a saddle nose were also noted (**Figure 2**).

Erythrocyte sedimentation rate and C-reactive protein were altered (28 mm/h and 1.14 mg/dL, respectively); blood cell count, serum amyloid (9.5 mg/L normal value 0–10 mg/L), and urinalysis were normal. Laboratory test was negative for infections and allergic investigations. Audiometric tests also were normal. Genetic testing displayed a heterozygous R260W mutation in the CIAS1/NLRP3 gene. This mutation has been described in association with familial cold autoinflammatory syndrome (FCAS) and Muckle-Wells syndrome (MWS).¹

FCAS/MWS are members of the cryopyrin associated periodic syndrome (CAPS) family. Cryopyrin is a component of the NLRP3 inflammasome, a cytoplasmic pattern recognition receptor that triggers interleukin (IL)-1 production.² Canakinumab, a human monoclonal anti-IL-1 β antibody, has been approved for CAPS and has been shown to induce remission in about 97% of patients.³ In our patient, symptoms resolved immediately after the start of canakinumab injections.

FCAS/MWS must be suspected in any child with chronic/recurrent urticaria of neonatal onset, particularly if associated with fever and ocular inflammation. Given the rarity of CAPS and the fact that symptoms are shared by more common disorders such as allergic, infective, or oncologic diseases, this may delay the diagnosis. The typical recurrence of urticarial rash and some facial features, such as saddle nose and frontal bossing, may aid in the thorough diagnosis, given the availability of anti-IL-1 therapeutic options of these rare syndromes. ■

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Figure 2. Frontal bossing and flattening of the nasal dorsum with saddle nose formation in CAPS.

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References available at www.jpeds.com



Figure 1. Ocular inflammation and erythematous, macular-papular skin rash in CAPS.

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