



GP CONSULTATION

MILK ALLERGY AND ATOPIC ECZEMA PATIENT 5 – MAX (5 MONTHS OLD)

“ Max has been **vomiting shortly after his feeds. Small red spots also appear across his body.**

We do not know what is causing it and it seems to be getting worse. He is **constantly crying and irritable.**

More worryingly, we think **he has been losing weight.**”

- Max's parents

1. MEDICAL HISTORY



- Breast-fed for the first 4 months
- Fed with formula (first infant formula) for the last month
- Formula type has not changed since starting formula feeds
- Born at full term with a normal delivery
- Born in the 25th percentile but weight is gradually faltering
- Vomiting and generalised urticaria are present within 30 minutes of feeds
- Symptoms have been ongoing for the last four days
- Paternal family history of eczema and hay fever
- Personal history of eczema (since the age of 3 months)
- No changes in soaps or products
- Has not consumed any solid foods yet

2. PHYSICAL EXAMINATION



- Atopic eczema on the arms and face
- No urticaria
- Breathing is normal
- No pallor or floppiness

3. GP INVESTIGATION



“ It is not uncommon for infants to **develop an adverse response to cow's milk** – this can be IgE-mediated, non-IgE-mediated or a mixture of both, but the rapid onset (20–30 minutes) suggests the former, so it is **worth performing a specific IgE blood test to cow's milk.**

I will also **refer the patient to a paediatric allergist for specialist care.**”

4. TEST RESULTS



- Specific IgE to cow's milk: 4.2 kU_A/l.

5. GP ACTION



Max was referred on to a paediatric allergist (See next page) due to his indicative medical history for cow's milk allergy and his faltering growth.

Max's parents were advised to continue use of the previously prescribed emollients and topical corticosteroids for Max's eczema.^{2,3}

They were also advised to transition Max from first infant formula to a hypoallergenic formula whilst he waits for his consultation with the paediatric allergist.⁴



ALLERGIST CONSULTATION

One week later, using the GP's notes as a reference, a medical history and physical examination of the skin was carried out. Max's eczema had mildly improved since his GP consultation where he was prescribed a hypoallergenic formula. Max's parents have also explained that Max no longer shows symptoms of urticaria after feeds.

MILK ALLERGY AND ATOPIC ECZEMA PATIENT 5 – MAX (5 MONTHS OLD)

“ Max has a **positive specific IgE to cow's milk**. I will carry out a **skin prick test** as his eczematous lesions are not widespread. In addition to cow's milk, I will also test for **egg and peanut sensitisation**. Allergies to egg and peanut are also common in infants and children.⁵ I may then carry out **component-resolved diagnostics using cow's milk allergens** to determine if Max is sensitised to **whey or casein proteins**. This may give some insight into whether Max may be able to tolerate foods with baked milk or not.^{6,7}”

1. TEST RESULTS

Skin prick test (wheal sizes): egg (no wheal), peanuts (no wheal), milk (4 mm).

Component-resolved diagnostics: Casein – Bos d 8 (2.5 kU_A/l), alpha-lactalbumin – Bos d 4 (0.7 kU_A/l), beta-lactoglobulin – Bos d 5 (0.23 kU_A/l).



2. ALLERGIST ACTION

Max has an IgE-mediated allergy to milk. Foods containing baked milk are not tolerated due to casein sensitisation; therefore, extra care should be taken when introducing solid foods into Max's diet. His prescription for hypoallergenic milk formulation was continued.⁷ A 3-week follow-up appointment was also booked to check Max's response to the hypoallergenic formula and to check if his weight had stabilised.

RECOMMENDATIONS GIVEN TO MAX'S PARENTS:

- Consult a dietician to discuss the best milk formulations for Max⁷ and to assess his calcium intake.⁴
- Read educational material (provided by the doctor) on how to avoid milk, read food labels and how to manage accidental exposures.⁷
- Return for a follow-up consultation at 12 months to assess suitability for reintroduction.⁴
- Consider introducing foods into Max's diet that are part of the family's normal diet and are commonly associated with food allergies.^{8,9} This can include foods such as peanuts. 10 Studies, such as the LEAP (Learning Early About Peanut) study, show that early childhood exposure to peanut can decrease the risk of developing peanut allergy.¹¹ (Both the NHS and BSACI offer resources to guide parents and healthcare practitioners on how to do this safely.^{8,9-12}



3. REFERENCES

1. NICE CKS. Cows' milk protein allergy in children. 2015. Available at: <https://cks.nice.org.uk/cows-milk-protein-allergy-in-children#!scenario> [accessed October 2019]
2. NICE Guidelines. Atopic eczema in under 12s: diagnosis and management. 2007. Available at: <https://www.nice.org.uk/guidance/cg57/resources/atopic-eczema-in-under-12s-diagnosis-and-management-pdf-975512529349> [accessed November 2019]
3. NHS. Eczema in babies and young children. 2017. Available at: <https://www.nhs.uk/conditions/pregnancy-and-baby/indigestion-heartburn-pregnant/> [accessed November 2019]
4. Luyt D, Ball H, Makwana N, et al. BSACI guideline for the diagnosis and management of cow's milk allergy. *Clin Exp Allergy*. 2014;44(5):642-672.
5. Gupta RS, Springston EE, Warrier MR, et al. The prevalence, severity, and distribution of childhood food allergy in the United States. *Pediatrics*. 2011;128(1):e9-17.
6. Matricardi PM, Kleine-Tebbe J, Hoffmann HJ, et al. (Editors). *Molecular Allergology User's Guide*. 2016. Zurich: European Academy of Allergy and Clinical Immunology
7. Ludman S, Shah N, Fox AT. Managing cows' milk allergy in children. *BMJ*. 2013;347:f5424
8. BSACI. Preventing food allergy in your baby: A summary for parents. (Date not available). Available at: <https://www.bsaci.org/about/early-feeding-guidance> [accessed November 2019]
9. BSACI. Preventing food allergy in higher risk infants: guidance for healthcare professionals. (Date not available). Available at: <https://www.bsaci.org/about/early-feeding-guidance> [accessed November 2019]
10. Stiefel G, Anagnostou K, Boyle RJ, et al. BSACI guideline for the diagnosis and management of peanut and tree nut allergy. *Clin Exp Allergy*. 2017;47(6):719-739
11. Toit G, Roberts G, Sayre P, et al. Randomized trial of peanut consumption in infants at risk of peanut allergy. *N Engl J Med*. 2015;372(9):803-813
12. NHS. Introduction of peanut at home. 2019. Available at: <https://www.kch.nhs.uk/Doc/pl%20-%20843.1%20-%20introduction%20of%20peanut%20at%20home.pdf> [accessed November 2019]

