Non-IgE-mediated Cow Milk Allergy Manifesting as Severe Atopic Dermatitis

Nikcevska N, Petrovska S.,
Zan Mitrev Clinic, R. Macedonia

Background and Aims

Cow's milk allergy (CMA) is the most common food allergy in infants and is associated with diverse clinical syndromes as a result of heterogeneous pathological immune responses to cow milk's proteins. CMA can manifest as an IgE-, non-IgE-mediated or mixed response. Atopic Dermatitis (AD) is considered to be an immune-mediated, inflammatory disease manifested by eczema, intense pruritus, dryness and erythema.

Method

We performed a radioallergosorbent test (RAST) and ImmunoCAP analysis of specific IgE antibodies against α -lactalbumin, β -lactalbumin and casein. Possible Lactase gene polymorphisms were assessed via RT-PCR.

A 5-months-old male infant presented with a severe form of AD, facial eczema and itching. Cow milk formula supplemented his breastmilk diet. The boy experienced delayed gastrointestinal involvement, bloating, and abdominal cramps and constipated to loose dark green stools.

The AD worsened with enlarging and merging of eczema, periorbital itching, erythema, palpebral oedema. We instructed the mother to switch to a dairy and allergen-free diet; extensively hydrolysed milk formula was used in addition to the breastmilk instead of the regular cow milk formula. The Finally, the AD was treated with hypoallergenic emollients.

Results

RAST and immunoCAP were both negative. PCR for lactose intolerance revealed a C/T-13910 positive genotype. Following maternal and child diet adaptation and the use of emollients, the infant's clinical condition significantly improved with no signs of AD and no abdominal symptoms.

Conclusion

Non-IgE-mediated cow milk allergy manifesting as severe Atopic Dermatitis and gastrointestinal manifestation is efficiently treated via maternal and child nutritional changes and emollients.

Method PCR	Lactose intolerance (C/T-13910)	POSITIVE
Detected Allele 1: C		
Allele 2 : C		
Method RAST-CAP		
Alfa-lactalbumin <0.1 kU/L		NORMAL
Beta-lactalbumin <0.1 kU/L		NORMAL
Kasein <0.1kU/L		NORMAL

References

Rona RJ, Keil T, Summers C, et al. The prevalence of food allergy: a meta-analysis. J Allergy Clin Immunol 2007; 120:638.
Høst A. Cow's milk protein allergy and intolerance in infancy. Some clinical, epidemiological and immunological aspects. Pediatr Allergy Immunol 1994; 5:1.
Bahna SL. Cow's milk allergy versus cow milk intolerance. Ann Allergy Asthma Immunol 2002; 89:56.
Osterballe M, Mortz CG, Hansen TK, et al. The prevalence of food hypersensitivity in young adults. Pediatr Allergy Immunol 2009; 20:686.
Eigenmann PA, Sicherer SH, Borkowski TA, et al. Prevalence of IgE-mediated food allergy among children with atopic dermatitis. Pediatrics 1998; 101:E8.