



# Effectiveness and Safety of Sublingual-Swallow Immunotherapy in Treating Severe Cow's Milk Protein Allergy

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*To the Editor:* Many children with severe cow's milk allergy (CMA) do not progress to oral immunotherapy. We report a case of severe CMA in a 12-y-old boy for which sublingual-swallow immunotherapy (SLIT-swallow) was used to safely increase the dose of CM to 25 ml. The patient had a history of five anaphylactic shock events with less than 3 ml, oral food challenge resulted in urticaria with 1.2 ml and tingling of the oral cavity with 0.2 ml of CM. SLIT-swallow was started in which 0.2 ml of CM was held under the tongue for two minutes and then taken orally once daily. He initially complained of tingling in the oral cavity; however, this symptom disappeared within 1 wk. The dose was increased by 0.1 ml each week for the first two months, then by 0.2 ml per day, but no adverse events occurred. As the amount increased, it was held in the oral cavity. He was able to take 25 ml as sustained unresponsiveness after a maintenance dose of 25 ml for 8 mo. Casein-specific IgE decreased from 6.64 to 3.75 U<sub>A</sub>/ml, casein-specific IgG4 increased from 0.59 to 1.26 mg<sub>A</sub>/L.

There are no reports of effective SLIT-swallow in severe CMA. De Boissieu & Dupont reported the efficacy of SLIT for CMA, although this did not include severe patients with an eliciting dose of less than 3 ml [1]. SLIT can effectively induce IL-10, promote antigen-specific IgG4 production, suppress IgE production, thus inducing immune tolerance with fewer adverse reactions; this is achieved as the oral mucosa is devoid of inflammatory cells but rich in antigen-presenting cells [2–4]. We believe that this case was

successful because SLIT-swallow safely induced immune tolerance from the oral mucosa initially, and then from the intestinal tract. SLIT-swallow is worthwhile when trying to treat a severe CMA.

## Declarations

**Conflict of Interest** None.

## References

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