

CASE REPORT

**Proctocolitis in a child treated with oral immunotherapy for cow's milk allergy
Proctocolitis with oral immunotherapy****Ozlem Sancakli*, Tuba Tuncel, Ece Ozdogru, Masallah Baran***Department of Pediatric Allergy Immunology, Tepecik Training and Research Hospital, Izmir, Turkey***RECEIVED DATE: 11-05-2016; ACCEPTED DATE: 26-05-2016; PUBLISHED DATE: 01-06-2016****CORRESPONDENCE AUTHOR:** Ozlem Sancakli,MD; cell phone: 0905322007092;**E-MAIL:** sancakliozlem@yahoo.com**CONFLICTS OF INTEREST****THERE ARE NO CONFLICTS OF INTEREST FOR ANY OF THE AUTHORS.****KEYWORDS:** Allergic proctocolitis; Cow's milk; Food allergy; Oral immunotherapy, Rectal Bleeding**INTRODUCTION**

The cow's milk allergy is the most common food allergy in children [1]. The cow's milk allergy regresses spontaneously in the majority of the patients, however due to the absence of this regress in some patients and the possible life-threatening reaction development in case of accidental contact, the new treatment options such as oral immunotherapy (OIT) are being searched. Although the studies reported to be generally well OIT tolerated[2], there also statements available in respect of the delayed reactions formation such as eosinophilic esophagitis in the monitoring[3]. Here, a case where the previously existing proctocolitis is aggravated during OIT and the spontaneously developed tolerance is regressed shall be presented.

The 7 months old male applied to the hospital with complaints of urticaria 10 minutes after the receipt of cow's milk and bloody mucous stool one day after. The physical examination was normal in the application of patient and there was not any findings to cause anal fissure etc, bleeding in the rectal examination. The skin prick test with cow's milk (SPT) was 10x10 mm. Cow's milk allergy and allergic proctocolitis diagnosis was established. When 2.5 years old, it was learned that the early type reactions with cow's milk continued, however that he could yogurt and baked milk products uneventfully. SPT with cow's milk was 8x5 mm. Bronchospasm developed in 45 minutes with the OFC. The family was advised to continue the elimination diet. Due to anxiety caused by the possibility of accidental milk encountering, and thus a severe reaction, it was planned to apply OIT for cow's milk and the consent of the family was taken.

When the patient was 30 months old, OIT was started. The treatment doses were shown in Table 1. Urticaria developed 2 hours after the milk receipt of 20 ml/ day on the 5th week and the symptoms regressed with the antihistamine therapy. The amount of daily milk consumption reached 40 ml/day on the 8th week, during which period the patient was referred to our clinic for abdominal pain and bloody stool. There was not any etiological causes in the evaluation of lower gastrointestinal system bleeding. Given the possibility that rectal bleeding could be related to cow's milk allergy, milk and milk products were stopped in the diet. After the start of the elimination diet, rapid regression of the symptoms were noticed and thus it was assumed that rectal bleeding was linked to cow's milk protein-dependent allergic proctocolitis. The patient, who was given elimination diet against milk and milk products, was clinically monitored thereafter. The patient was referred again due to rectal bleeding one month later during follow-up. His mother indicated that she did not give her son any milk; however, she attempted to introduce baked milk products which he could eat without any problem before. Skin tests revealed papules of 5x5 mm against cow's milk, and 5x5 mm against milk preheated to 220 degrees for 30 minutes. The patient was prescribed a whole cow's milk elimination diet that also included baked milk products, after which rapid regression of bleeding findings occurred. It was specifically considered that OIT triggered allergic proctocolitis and reversed the partial tolerance.

Table 1: Treatment protocol for oral immunotherapy and symptoms that developed during the treatment.

	Diluted cow's milk (1/10)	Cow's milk (1/1)	Symptom
Day1(15min.)	0.1-0.3-0.6-1 ml	-	-
Day2(15min.)		0.1-0.3-0.6 ml	-
Day 3,4,5,6,7		1 ml	-
Week 2		2 ml	-
Week 3		5 ml	-
Week 4		10 ml	-
Week 5		20 ml	urticaria
Week 6		20 ml	-
Week 7		40 ml	-
Week 8		40 ml	Rectal bleeding

DISCUSSION

Eighty percent of all cow's milk allergy cases develop tolerance to cow's milk by 3-4 years of age under close monitoring[1]. The mainstay of the therapy of food allergies is the avoidance of food stuff responsible for allergy until tolerance develops. However, the fact that not all allergic patients develop tolerance and severe reactions may occur due to accidental contact, new treatment methods have been investigated for food allergies. Among these methods, OIT is the primary treatment option. Meta-analyses have indicated that OIT increases the tolerable amount of milk for many patients[2]. It has been reported that during the ongoing OIT treatment, severe side effects are very rare, and most are of mild to moderated forms[2]. However, in a meta-analysis in which OIT's long term effects were evaluated, 2.7% of the cases receiving the therapy developed EoE, and the findings were completely eliminated by milk restricted diet [3]. This meta-analysis emphasizes that in cases of cow's milk allergy, OIT is effective in suppressing early type reactions; however, mixed type reactions such as EoE could be triggered; therefore, monitoring should be carefully done.

Allergic proctocolitis is a benign, non-IgE mediated reaction against nutritional proteins in infants that generally shows spontaneous remission by 1 year of age[4,5]. In our case, the findings of allergic proctocolitis regressed in time and no recurrence due to accidental contact with milk products and oral provocation was observed.

Because of the fact that early type reactions continue with OFC using cow's milk, OIT was decided to be applied; however, rectal bleeding at the 8th week of the treatment caused OIT to be stopped. Our case showed that allergic proctocolitis recurred with a subsequent to exposure to cow's milk after a period of as long as 8 weeks. In our case, no full tolerance against cow's milk was formed in the gastrointestinal tract; rather, findings of allergic proctocolitis exacerbated when the patient encountered with enough dosage of cow's milk.

In our case OIT lead to the loss of the tolerance against heated and fermented milk products after rectal bleeding. In the literature, there are no reports on resensitization against foods that were tolerated after a previously formed mucosal damage. In our case, mucosal damage was formed in the gastrointestinal system and the elimination of the tolerance mechanisms against cow's milk by epithelial permeability failure caused resensitization against heated and fermented milk products.

It has been observed that, in cases that develop cow's milk allergy with mixed type mechanisms (IgE, non-IgE) as in our case, performing OIT to control early type reactions could cause exacerbation of remitting allergic proctocolitis and could even lead to new sensitizations by damaging the tolerance mechanisms of epithelial permeability which is harmed due to rectal bleeding. Therefore, we believe that while deciding to apply OIT in selected cases, it should be kept in mind that OIT could trigger delayed type reactions.

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