

# **Clinical Outcome of Infants and Children Diagnosed with Cow Milk Allergy 3years after Reintroduction of Cow Milk Products**

## **Thesis**

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## **LIST OF ABBREVIATIONS**

Abbrev.	Full term
<b>AAF</b>	Amino Acid based Formula
<b>AD</b>	Atopic dermatitis
<b>ADHD</b>	Attention deficit hyperactivity disorder
<b>APC</b>	Antigen presenting cell
<b>APT</b>	Atopic patch test
<b>ASD</b>	Autism spectrum disorder
<b>BPR</b>	Bleeding per rectum
<b>CD</b>	Celiac disease
<b>CMA</b>	Cow's milk allergy
<b>CMI</b>	Cow's milk intolerance
<b>CMPA</b>	Cow milk protein allergy
<b>CMPs</b>	Cow milk proteins
<b>CMPSE</b>	Cow's milk protein sensitive enteropathy
<b>DBPCFC</b>	Double blind placebo controlled food challenge
<b>DES</b>	Diffuse esophageal spasm
<b>DHA</b>	Docosahexaenoic acid
<b>EE</b>	Eosinophilic esophagitis
<b>EGD</b>	Esophagogastroduodenoscopy
<b>eHF</b>	Extensive hydrolysed formula
<b>ELIZA</b>	Enzyme linked immunoabsorbent assays

<b>ENS</b>	Enteric Nervous System
<b>FA</b>	Food allergy
<b>GER</b>	Gastroesophageal reflux
<b>GERD</b>	Gastroesophageal reflux disease
<b>GM</b>	Goat milk
<b>H<sub>2</sub> RA</b>	Histamine receptor antagonist
<b>HF</b>	Hydrolyzed formula
<b>HRPF</b>	The hydrolysed rice protein formulas
<b>IBD</b>	Inflammatory bowel disease
<b>IBS</b>	Irritable bowel syndrome
<b>LES</b>	Lower esophageal sphincter
<b>LGG</b>	Lactobacillus GG
<b>OCT</b>	Open Challenge Test
<b>pHF</b>	Partially hydrolyzed formulas
<b>RAST</b>	Radio-allergosorbent test
<b>RE</b>	Reflux esophagitis
<b>SBBF</b>	Soy bean based formula
<b>SF</b>	Soy formula
<b>SOTI</b>	Specific oral tolerance induction
<b>SPTs</b>	Skin prick tests
<b>UGI</b>	Upper gastrointestinal imaging series
<b>WFA</b>	Weight For Age

## INTRODUCTION

Cow's milk protein allergy affects from 2 to 6% of children, with the highest prevalence during the first year of age (*Caffarelli et al., 2010*).

Patients with cow's milk protein allergy present with a wide range of IgE- and non-IgE-mediated clinical syndromes. IgE-mediated reactions occur immediately or within 1–2 hours of ingestion, whereas non-IgE-mediated reactions generally have a delayed onset beyond two hours of ingestion. Clinical symptoms of cow's milk protein allergy commonly appear during the first months of life, usually within days or weeks after feeding with CM-based formulas have been started, or may sometimes be seen in exclusively breastfed infants (*Jacob et al., 2011*).

Infants with cow's milk protein allergy usually present with symptoms similar to allergic reactions in older individuals. These include cutaneous symptoms such as urticaria, rash, and pruritus, as well as respiratory symptoms such as wheeze and cough; these symptoms are usually indicative of IgE-mediated cow's milk protein allergy. Cow's milk protein allergy can also present with gastrointestinal and nutritional manifestations. These include gastro esophageal reflux, esophagitis, gastritis, delayed gastric emptying, enteropathy, colitis, constipation, and failure to thrive (*Brill, 2008*).

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## Introduction

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For cow's milk protein allergy sufferers, avoidance of dietary milk proteins remains the only effective management strategy (*Ross, 2005*).

Children with cow's milk protein allergy should be monitored for development of tolerance, since most will outgrow their allergy in childhood. Non-IgE mediated cow's milk protein allergy has a better prognosis and tends to resolve more quickly than IgE-mediated CMA (cow milk allergy) (*Jacob et al., 2011*).

About 50% of children have been shown to resolve cow's milk protein allergy within the first year of age, 80-90% within their fifth year (*Caffarelli et al., 2010*).

## **HYPOTHESIS & AIM OF THE WORK**

The aim of the present study was to find out the clinical outcome of patients diagnosed with cow milk allergy who underwent elimination of cow milk products 3 years after reintroduction of dairy products.