

Milk is Not for Everyone: Milk Allergy

PD Gupta

Former, Director Grade Scientist, Centre for Cellular and Molecular Biology, Hyderabad, India.

***Corresponding Author:** PD Gupta, Former, Director Grade Scientist, Centre for Cellular and Molecular Biology, Hyderabad, India.

Received date: December 14, 2024; **Accepted date:** December 23, 2024; **Published date:** December 30, 2024

Citation: PD Gupta, (2024), Milk is Not for Everyone: Milk Allergy, *J. Women Health Care and Issues*, 7(8); DOI:10.31579/2642-9756/237

Copyright: © 2024, PD Gupta. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

Same size does not fit to everyone, though, milk is considered superfood, some persons are not only test wise, even genetically are allergic to it. It is now established fact that allergies have a strong genetic component and non-dairy milk is the only alternative. an atypical immune system response to milk and its products

Milk is a nutrient-rich beverage that may benefit our health in several ways. It's packed with important nutrients, minerals, vitamins, protein and sugars in addition to healthy fatty acids. Consuming high-quality milk and dairy products has been proven to provide a number of health benefits. Drinking milk and dairy products may prevent osteoporosis and bone fractures and even help you maintain a healthy weight. Milk consumption is a hotly debated topic in the nutrition world. Although, milk is considered as superfood but for some, those who can't digest it and act as an allergen, cannot use it [1].

Milk allergy is an atypical immune system response to milk and its products. It's one of the most common food allergies in children [2] Cow's milk is the usual cause of milk allergy, but milk from sheep, goats, buffalo and other mammals also can cause a reaction. A sugar found in milk, the lactose, 65% of the world's population cannot digest dairy products because they suffer with lactose intolerance. Allergic diseases are complex, resulting from the interplay of multiple genes and environmental factors [3]. Many times, the test results are not checked and presumes that a particular food item caused an allergy, simply because the patient says so. However, the doctor needs to conduct an exhaustive questionnaire with the patient before declaring him to be allergic, based on a clinical test and testing it on the patient again. A blanket avoidance of foods considered to cause allergies can lead to significant malnutrition. An allergic reaction usually occurs soon after a person consumes milk. Signs and symptoms of milk allergy range from mild to severe and can include wheezing, vomiting, hives and digestive problems. Milk allergy can also cause anaphylaxis — a severe, life-threatening reaction.

Obvious sources of allergy-causing milk proteins are found in dairy products, including: Whole milk, low-fat milk, skim milk, buttermilk, Butter, Yogurt, Ice cream, varieties of Cheese. Avoiding milk and milk products is the primary treatment for milk allergy. Fortunately, most children outgrow milk allergy. Those who don't outgrow it may need to continue to avoid milk products.

Key words: neurological complication; multiple organ dysfunction; faecal microbiota transplantation; bacteremia, electroencephalography

Causes

All true food allergies are caused by an immune system malfunction. Allergic reactions are an overreaction of the immune system to a harmless substance (allergen), involving the production of IgE antibodies that bind to mast cells and basophils, triggering the release of inflammatory mediators like histamine, leading to allergic symptoms. If a person has milk allergy, his immune system identifies certain milk proteins as harmful, triggering the production of immunoglobulin E (IgE) antibodies to neutralize the protein (allergen). If the person is again exposed with these proteins, immunoglobulin E (IgE) antibodies recognize them and signal the immune system to release histamine and other chemicals, causing a range of allergic signs and symptoms [4]

There are two main proteins in cow's milk that can cause an allergic reaction:

- Casein, found in the solid part (curd) of milk that curdles
- Whey, found in the liquid part of milk that remains after milk curdles

The person may be allergic to only one milk protein or to both. These proteins may be hard to avoid because they're also in some processed foods. And most people who react to cow's milk will react to sheep, goat and buffalo milk.

Food protein-induced enterocolitis syndrome (FPIES)

Symptoms

Milk allergy symptoms, which differ from person to person, occur a few minutes to a few hours after drinking milk or eating milk products.

Immediate signs and symptoms of milk allergy might include:

- Hives
- Wheezing
- Itching or tingling feeling around the lips or mouth
- Swelling of the lips, tongue or throat
- Coughing or shortness of breath
- Vomiting

Signs and symptoms that may take more time to develop include:

- Loose stools or diarrhea, which may contain blood
- Abdominal cramps
- Runny nose
- Watery eyes
- Colic, in babies

Milk allergy or milk intolerance: A true milk allergy differs from milk protein intolerance and lactose intolerance. Unlike milk allergy, intolerance doesn't involve the immune system. Milk intolerance requires different treatment from true milk allergy. Common signs and symptoms of milk protein intolerance or lactose intolerance include digestive problems, such as bloating, gas or diarrhea, after consuming milk or products containing milk [5].

Anaphylaxis: Milk allergy can cause anaphylaxis, a life-threatening reaction that narrows the airways and can block breathing. Milk is the third most common food — after peanuts and tree nuts — to cause anaphylaxis. Anaphylaxis is a medical emergency and requires treatment with an epinephrine (adrenaline) shot (EpiPen, Adrenaclick, others) and a trip to the emergency room. Signs and symptoms start soon after milk consumption and can include:

Constriction of airways, including a swollen throat that makes it difficult to breathe

- Facial flushing
- Itching
- Shock, with a marked drop in blood pressure
- Risk factors
- Certain factors may increase the risk of developing milk allergy:

Other allergies. Many children who are allergic to milk also have other allergies. Milk allergy may develop before other allergies [6].

Atopic dermatitis. Children who have atopic dermatitis — a common, chronic inflammation of the skin — are much more likely to develop a food allergy.

Family history. A person's risk of a food allergy increases if one or both parents have a food allergy or another type of allergy or allergic disease — such as hay fever, asthma, hives or eczema.

Age. Milk allergy is more common in children. As they age, their digestive systems mature, and their bodies are less likely to react to milk.

Children who are allergic to milk are more likely to develop certain other health problems, including:

Nutritional deficiencies. Because of dietary restrictions and feeding challenges, children with milk allergy may have slowed growth as well as vitamin and mineral deficiencies.

Reduced quality of life. Many common, and sometimes unexpected, foods contain milk, including some salad dressings or even hot dogs. If you or your child is severely allergic, avoiding milk exposure may

increase stress or anxiety levels when it comes to making food choices [7].

Milk alternatives for adults

In children who are allergic to milk, breastfeeding and the use of hypoallergenic formula can prevent allergic reaction [8]

Breastfeeding is the best source of nutrition for the infant. Breastfeeding for as long as possible is recommended, especially if the infant is at high risk of developing milk allergy [9].

Hypoallergenic formulas are produced by using enzymes to break down (hydrolyze) milk proteins, such as casein or whey [10]. Further processing can include heat and filtering. Depending on their level of processing, products are classified as either partially or extensively hydrolyzed. Or they may also be called elemental formulas.

Some hypoallergenic formulas aren't milk based, but instead contain amino acids. Besides extensively hydrolyzed products, amino-acid-based formulas are the least likely to cause an allergic reaction [11].

Soy-based formulas are based on soy protein instead of milk. Soy formulas are fortified to be nutritionally complete — but, unfortunately, some children with a milk allergy also develop an allergy to soy.

Milk alternatives for adults

There are many non-dairy milk alternatives available for those who can't or choose not to drink dairy milk.

There are numerous non-dairy milk alternatives exist for those allergic to dairy milk, these include soy, almond, oat, coconut, and rice milk, each offering unique nutritional profiles [12].

- **Soy Milk:** Made from soybeans, soy milk is a good source of protein and is often fortified with calcium and vitamin D.
- **Almond Milk:** A popular choice, almond milk is lower in calories and fat than cow's milk, and it's a good source of vitamin E.
- **Oat Milk:** Oat milk is a creamy alternative, and it is a good source of fiber and beta-glucan, which can help lower cholesterol.
- **Coconut Milk:** Coconut milk has a distinct flavor and is a good source of healthy fats and minerals like potassium.
- **Rice Milk:** Rice milk is a mild-flavored option that is naturally low in calories and fat.

References

1. Janeway CA Jr, Travers P, Walport M, et al. (2001). Immunobiology: The Immune System in Health and Disease. 5th edition. New York: Garland Science; Effector mechanisms in allergic reactions.
2. Jensen SA, Fiocchi A, Baars T, Jordakieva G, Nowak-Wegrzyn A, Pali-Schöll I, et.al. (2022). WAO DRACMA guideline group. Diagnosis and Rationale for Action against Cow's Milk Allergy (DRACMA) Guidelines update - III - Cow's milk allergens and mechanisms triggering immune activation. World Allergy Organ J. Sep 15;15(9):100668.
3. Ortiz RA, Barnes KC. (2015). Genetics of allergic diseases. Immunol Allergy Clin North Am. Feb;35(1):19-44.
4. Edwards CW, Younus MA. Cow Milk Allergy. [Updated 2024 Oct 25]. (2025). In: Stat Pearls [Internet]. Treasure Island (FL): Stat Pearls Publishing.
5. Berni Canani R, Pezzella V, Amoroso A, Cozzolino T, Di Scala C, Passariello A (March 2016). "Diagnosing and Treating Intolerance to Carbohydrates in Children". Nutrients. 8 (3): 157

6. Peavy RD, Metcalfe DD. Understanding the mechanisms of anaphylaxis. *Curr Opin Allergy Clin Immunol.* 2008 Aug;8(4):310-315.
7. Mehta H, Groetch M, Wang J. Growth and nutritional concerns in children with food allergy. *Curr Opin Allergy Clin Immunol.* 2013 Jun;13(3):275-279.
8. Brusati M, Baroni L, Rizzo G, Giampieri F, Battino M. (2023). Plant-Based Milk Alternatives in Child Nutrition. *Foods.* Apr 6;12(7):1544. s.
9. Al Rushood M, Al-Qabandi W, Al-Fadhli A, Atyani S, Al-Abdulghafour A, Hussain A. (2023). Children with Delayed-Type Cow's Milk Protein Allergy May Be at a Significant Risk of Developing Immediate Allergic Reactions Upon Re-introduction. *J Asthma Allergy.* Mar 7; 16:261-267.
10. Liang, X., Qian, G., Sun, J. et al. (2021). Evaluation of antigenicity and nutritional properties of enzymatically hydrolyzed cow milk. *Sci Rep* 11, 18623.
11. Ribes-Koninckx C, Amil-Dias J, Espin B, Molina M, Segarra O, Diaz-Martin JJ. (2023). The use of amino acid formulas in pediatric patients with allergy to cow's milk proteins: Recommendations from a group of experts. *Front Pediatr.* Mar 22; 11:1110380
12. Sethi S, Tyagi SK, Anurag RK. (2016). Plant-based milk alternatives an emerging segment of functional beverages: a review. *J Food Sci Technol.* Sep;53(9):3408-3423.



This work is licensed under Creative Commons Attribution 4.0 License

To Submit Your Article Click Here:

[Submit Manuscript](#)

DOI:10.31579/2642-9756/237

Ready to submit your research? Choose Auctores and benefit from:

- fast, convenient online submission
- rigorous peer review by experienced research in your field
- rapid publication on acceptance
- authors retain copyrights
- unique DOI for all articles
- immediate, unrestricted online access

At Auctores, research is always in progress.

Learn more <https://www.auctoresonline.org/journals/women-health-care-and-issues>