



REVIEW ARTICLE

Eosinophilic colitis in infants[☆]

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KEYWORDS

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PALAVRAS-CHAVE

Colite;
Alergia a leite;
Eosinófilos;
Lactente

Abstract

Objective: to review the literature for clinical data on infants with allergic or eosinophilic colitis.

Data source: MEDLINE search of all indexes was performed using the words “colitis or proctocolitis and eosinophilic” or “colitis or proctocolitis and allergic” between 1966 and February of 2013. All articles that described patients’ characteristics were selected.

Data synthesis: a total of 770 articles were identified, of which 32 met the inclusion criteria. The 32 articles included a total of 314 infants. According to the available information, 61.6% of infants were male and 78.6% were younger than 6 months. Of the 314 patients, 49.0% were fed exclusively breast milk, 44.2% received cow’s milk protein, and 6.8% received soy protein. Diarrheal stools were described in 28.3% of patients. Eosinophilia was found in 43.8% (115/263) of infants. Colonic or rectal biopsy showed infiltration by eosinophils (between 5 and 25 per high-power field) in 89.3% (236/264) of patients. Most patients showed improvement with the removal of the protein in cow’s milk from their diet or the mother’s diet. Allergy challenge tests with cow’s milk protein were cited by 12 of the 32 articles (66 patients).

Conclusions: eosinophilic colitis occurs predominantly in the first six months of life and in males. Allergy to cow’s milk was considered the main cause of eosinophilic colitis. Exclusion of cow’s milk from the diet of the lactating mother or from the infant’s diet is generally an effective therapeutic measure.

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Colite eosinofílica em lactentes

Resumo

Objetivo: revisão da literatura sobre dados clínicos de lactentes com colite eosinofílica ou alérgica.

Fonte dos dados: pesquisa no Medline de todas as indexações com as palavras “colitis or proctocolitis and eosinophilic” ou “colitis or proctocolitis and allergic” entre 1966 e fevereiro de 2013. Foram selecionados todos os artigos que descreviam as características dos pacientes.

Síntese dos dados: foram identificados 770 artigos dos quais 32 preenchiam os critérios de inclusão. Os 32 artigos incluíram o total de 314 lactentes. Conforme as informações disponíveis,

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61,6% dos lactentes eram do sexo masculino e 78,6% apresentavam idade inferior a 6 meses. Dos 314 pacientes, 49,0% encontrava-se em aleitamento natural exclusivo, 44,2% recebiam proteína do leite de vaca e 6,8% proteína da soja. Fezes diarreicas foram descritas em 28,3% dos pacientes. Eosinofilia foi encontrada em 43,8% (115/263) dos lactentes. Biópsia retal ou colônica mostrou infiltração por eosinófilos (entre 5 e 25 por campo de grande aumento) em 89,3% (236/264) dos pacientes. A maioria dos pacientes apresentou melhora com a retirada da proteína do leite de vaca da sua dieta ou das suas mães. Teste de desencadeamento com proteína do leite de vaca foi citado em 12 dos 32 artigos (66 pacientes).

Conclusões: colite eosinofílica ocorre predominantemente nos primeiros seis meses de vida e no sexo masculino. Alergia ao leite de vaca foi considerada a principal causa de colite eosinofílica. Dieta de exclusão do leite de vaca da mãe lactante ou da dieta do lactente é uma medida terapêutica geralmente eficaz.

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Introduction

The prevalence of food allergy has increased in recent decades, especially in the pediatric population.^{1,2} Foods most often related to food allergy are cow's milk, eggs, soy, peanuts, nuts, seafood, and kiwifruit.² In infants, cow's milk protein allergy (CMA) is the most common, and usually starts in the first six months of life.

In Brazil, the prevalence of food allergy and the most important types of food allergy are yet to be determined. A study performed in the five geographic regions of Brazil assessed the sensitization of children with atopy, demonstrating that the most sensitizing food allergens were fish, eggs, cow's milk, wheat, peanuts, soybeans, and corn.³ Among infants, the food that most frequently caused sensitization was cow's milk.³ It is noteworthy that the presence of sensitization does not mean that the individual will effectively have food allergy.

Based on information from other countries, CMA is the most common type of food allergy in childhood.⁴ It affects approximately 3% of children,⁵ and its prevalence is higher in the first year of life. An epidemiological study performed in pediatric gastroenterology clinics in several regions of Brazil showed that among 9,478 consultations, 7.3% were prompted by a known or suspected food allergy, and the following were the suspected foods: 77% of cases, cow's milk; 8.7% of cases, soy; 2.7% of cases, egg; and 11.6% of cases, other foods. The analysis of new cases and follow-up allowed for a good estimation of an incidence of 2.2% and prevalence of 5.4% of patients with confirmed or suspected CMA.⁶

CMA should be regarded as an important clinical entity, since that normal infants have high rates of growth and development, and both CMA and the use of inadequate diet substitutes can compromise full growth and development in this important phase of life.^{6,7}

Eosinophilic or allergic colitis has been described as a common entity,^{5,8} but its exact prevalence is unknown.⁴ Walker-Smith, one of the pioneers in the study of gastrointestinal food allergy, stated that, since the last decade CMA has been occurring with different manifestations when compared to those observed in the 1970s and 1980s, when there was a predominance of enteropathy induced by the milk in the infants' diet with infections by enteropathogenic *Escherichia coli*.⁹ In this context, the epidemiological study

performed in Brazil⁶ demonstrated that 20.6% of infants with known or suspected CMA had blood in the stool that might be the result of allergic or eosinophilic colitis.

Eosinophilic colitis is considered one of the presentations of primary gastrointestinal eosinophilic diseases. This group of diseases also includes eosinophilic esophagitis, eosinophilic gastritis, and eosinophilic gastroenteropathy. The differential diagnosis of eosinophilic diseases must include causes that may result in secondary eosinophilic infiltration, such as certain intestinal parasites (*Enterobius vermicularis*, *Strongyloides stercoralis*, and *Trichuris trichiura*) and drugs (carbamazepine, rifampicin, gold, non-steroidal anti-inflammatory drugs, and tacrolimus).^{10,11} It is also noteworthy that the clinical picture depends on the predominance of eosinophilic infiltration in the different layers of the intestine, that is, mucosal, muscularis, and serosa layers. There is a high association with atopy at all ages; however, in infants, the connection with food allergy is more frequently established.

Conversely, in adults, in addition to the adverse reaction to foods, other mechanisms lead the treatment to often include medicines in addition to elimination diet. Thus, the term allergic colitis can be used as a second alternative to denominate eosinophilic colitis, in a more appropriate form for infants.^{10,11}

Thus, considering the increase in the number of infants with bleeding in the stool associated with CMA and the lack of articles with large samples, a literature review of articles indexed from 1966 to February of 2013 was performed, focusing on clinical and evolution aspects of infants with eosinophilic or allergic colitis.

Methods

A search was performed in the MEDLINE database for all indexed articles containing the words "colitis or proctocolitis and eosinophilic" and "colitis or proctocolitis and allergic", between 1966 and February of 2013. Publications were considered in the following languages: English, Portuguese, and Spanish. All types of articles were included, as long as they contained the clinical information of the infants with colitis or eosinophilic or allergic proctocolitis.

The abstracts were independently analyzed by two authors who selected articles that had samples or case

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