A-36 Cow milk allergy

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Cow milk allergy is a common clinical problem which occurs due to interaction between milk proteins and immune mechanisms of the body. The 2 main classes of protein in milk are whey and casein. The major whey protein in cow milk is ß-lactoglobulin, which is absent from human milk and is potentially antigenic to human. An IgE mediated response is the predominantly involved immune mechanism in cow milk allergy. Symptoms of cow milk allergy vary widely.

This study was carried out to determine the prevalence of cow milk allergy among Sri Lankans, to identify the nature of allergic reactions occurring in them and to identify the allergen in cow milk.

Prevalence of cow milk allergy was determined by administering a questionnaire to fresh cow milk consumers in 17 districts. Total protein, casein and whey protein concentrations in cow, human and goat milk were analysed by Kjeldhal and Biuret methods. Caseins and whey proteins were further analysed by SDS-PAGE.

According to the questionnaire based survey, 11.6% of the sample were allergic to cow milk. Frequently reported symptoms were associated with the respiratory system (367), gastrointestinal system (217), cardiovascular system (89) and the skin (78). The total protein concentrations (g/l) of goat milk, cow milk, human milk and yoghurt were 35.2, 33.5, 8.3 and 33.0 respectively. The casein concentration and the whey proteins for the 3 species were 29.1, 24.1, 2.4 and 6.13, 9.51, 5.97 (g/l) respectively. SDS-PAGE revealed a less prominent ß-lactoglobulin bands in goat milk and yoghurt when compared with that of cow's milm.

According to the results of this study, prevalence of cow milk allergy is high among Sri Lankans and ß-lactoglobulin might be an important allergen responsible for it.

Hypo-allergenicity of yoghurt and goat milk may be attributed to their low ß-lactoglobulin levels.

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