

PRIMARY LOW LACTASE ACTIVITY IN AUSTRALIAN ABORIGINALS

J.C. BRAND*, M. GRACEY+, R.M. SPARGO**, and S. DUTTON*

Claims in the literature (Senewiratne et al. 1977) that primary or isolated hypolactasia is common in Australian Aborigines are poorly substantiated. They usually cite the study by Elliott et al. (1967) whose findings of a high incidence of impaired blood sugar response to a lactose load in Aboriginal children were qualified by environmental factors such as malnutrition, and gastrointestinal infections and infestations. It has been shown since (Gracey 1973) that lactose intolerance is usually a temporary phenomenon resulting from the factors mentioned above.

The aim of this study was to determine whether late-onset hypolactasia (or primary lactase deficiency) is common in healthy, full-blood Aboriginal adults.

The subjects were 46 volunteers living in or near Derby, Western Australia. The breath hydrogen method was used to determine the malabsorption of lactose. Fifty grams of lactose dissolved in 250 ml of water was administered after a minimum 4-hour fast. Breath samples were taken via 20 ml vacutainers (Terumo) at 0 time and 2 h by end-expiratory sampling using a modified Haldane-Priestley tube as described by Metz et al. (1976). Hydrogen concentration was determined by gas chromatography.

Of the 45 subjects, 28 (62%) showed gastrointestinal symptoms within 6 h of the lactose load and 38 (84%) showed a breath hydrogen rise greater than 20 ppm, which is indicative of lactose malabsorption.

These results confirm that the incidence of primary hypolactasia in Australian Aborigines is similar to that of most other non-white population groups throughout the world.

SENEWIRATNE, B., PHAMBIPILLAI, S. and PERERA, H. (1977). Gastroenterology 72:1257.

ELLIOTT, B., MAXWELL, G.M. and VAWSER, N. (1967). Med. J. Aust. 1:46.

GRACEY, M. (1973). Aust. N.Z. J. Med. 3:567.

METZ, G., GASSULL, M.A., LEED, A.R., BLENDIS, L.M. and JENKINS, D.J.A. (1976). Clin. Sci. Molec. Med. 50:237.

* Human Nutrition Unit and Commonwealth Institute of Health, University of Sydney, NSW 2006

+ Princess Margaret Children's Medical Research Foundation, Perth WA

** Community and Child Health Service, Derby, WA