

RISK OF DIABETES IN ABORIGINES FROM THE DESERT

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Most previous studies reporting high prevalence of diabetes in Australian Aborigines have been conducted on coastal or island communities around Australia [South Australia (Wise et al. 1976), West Kimberley (Bastian et al. 1979), Torres Strait (Duffy et al. 1981)]. Aborigines are not a homogeneous population and it is not known whether all groups are equally vulnerable to diabetes. In order to investigate this question we recently conducted metabolic tests on a cross-section of the adult males from a desert community in the south-east Kimberley (Western Australia). These people no longer live as hunter-gatherers but lead a sedentary lifestyle and eat western foods.

Sixty-three men aged 15-68 years underwent a 75 g oral glucose tolerance after an overnight fast. Their body mass index (BMI) ranged from extremely lean to obese (BMI: 16.2 - 35.3 kg/m²) with a mean of 22.7 ± 0.5 kg/m². Glucose and insulin concentrations were measured in blood samples taken before and 1/2, 1, 2 and 3 hours after the glucose load. Cholesterol and triglyceride concentrations were measured in fasting plasma.

Although diabetes was not widespread (4 cases), a further 17 men had impaired glucose tolerance (IGT: 2-hr glucose > 7.8 mM), 30 had fasting hypertriglyceridemia (> 2 mM), and 40 had hyperinsulinemia (AUC 0-3 hr > 130 mU.l⁻¹hr). Although the group as a whole was not obese, BMI did increase somewhat with age. Diabetes, IGT and hypertriglyceridemia were all strongly age-related. In contrast, hyperinsulinemia occurred commonly in lean subjects as well.

Comparison of the results of the younger men in this study with those from approximately age- and BMI- matched men from a previous study on coastal Aborigines (O'Dea et al. 1982) revealed a similar impairment of glucose tolerance, but a higher frequency of hyperinsulinemia. These results suggest that as urbanisation proceeds and adiposity increases, these desert Aborigines may be at even greater risk of diabetes than the coastal Aborigines.

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