

Alcohol related cardiomyopathy in the Seychelles

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Alcohol related cardiomyopathy

A high incidence of a variety of alcohol related diseases is well recognized in the Seychelles, among them alcohol related cardiomyopathy is a major concern. Throughout 1989, there were 96 cases out of a total of 2062 medical admissions with a diagnosis of alcohol related cardiomyopathy; 84 of these were male, 12 female and 49 less than 50 years old.

Typically, these patients are young or middle-aged, heavy alcohol drinkers, without history or evidence of ischemic, hypertensive, valvular or rheumatic heart disease. At the admission, they present with a severe heart failure with or without pulmonary congestion, a big heart on chest X-ray, normal creatine-phosphokinase level, minimal electrocardiographic alterations. Other alcohol related signs (liver disease, peripheral neuropathy) are rarely associated. Although fatal cases are not exceptional, most of them improved dramatically within some days with parenteral vitamin B1 eventually associated with diuretics. The majority of young patients admitted in 1989 (12 out of 17 patients aged less than 35 years old) responded with marked diuresis within 4 hours of thiamine administration alone with weight losses of up to 20 kg in 3 days.

Alcohol consumption may result in alcohol related cardiomyopathy by 2 basic mechanisms, i.e., thiamine deficiency (beri-beri heart disease) and a direct toxic effect of alcohol (alcohol cardiomyopathy).

Beri-beri results from the combination of a high alcohol intake, providing a large carbohydrate load (thiamine is needed at several stages in the carbohydrate metabolism) and a poor thiamine containing diet (common finding in alcoholic patients). As thiamine is poorly stored in the

body, deficiency may become apparent within weeks. The Seychellois diet is based on fish and rice but the intake of thiamine derived from rice is low as only milled rice is available. A household expenditure survey carried out in 1984 in the Seychelles showed an average daily thiamine consumption of 0.5 mg per adult, which is less than half the recommended daily requirement. It is difficult to separate clinically pure beri beri heart disease from toxic alcoholic cardiomyopathy. The fact that many patients, especially the youngest ones, respond with thiamine therapy alone suggests a number of cases with predominantly thiamine deficient forms of cardiomyopathy.

Cardiomyopathy due to direct alcohol toxic effect installs within years of alcohol abuse and may eventually become irreversible. A survey showed that as much as 18% of male adult Seychellois was found to regularly consume more than 100 g of alcohol per day. Aside thiamine deficiency, alcohol toxicity is therefore believed to be another major cause for number of cases of alcohol related cardiomyopathy in the Seychelles. Such a mechanism is especially advocated in those middle-aged and older patients who fail to respond well to therapy and may even turn into fatal cases for a significant part of them.

It is likely that a number of all medical admissions for alcohol related cardiomyopathy in the Seychelles are a combination of both thiamine deficient and alcohol cardiomyopathy and parenteral thiamine is therefore given to all cases in this environment. Supplementation of thiamine to rice or commercially produced drinks could reduce the prevalence of beri beri heart disease. As alcohol is much part of the local tradition and home brews available at no cost, further health education will be the cornerstone of a preventive strategy aimed at reducing alcohol abuse.