

SYMPOSIUM REPORT

Coronary Heart Disease in the Asian Community

M. M. S. Ahuja*

A one day symposium was organised by Dr. A.C. Burden Dr. H. Thurston of the Dept. of Medicine, University of Leicester on May 16, 1993. Faculty included epidemiologists, cardiologists, specialists in diabetes, physicians and general practice consultants. Two hundred and fifty general practitioners from U.K., a majority being of the Asian origin participated in this symposium.

Dr. A.C. Burden, while introducing the symposium stated that the specific objectives were:

1. To provide an opportunity to learn about and to understand coronary heart disease (CHD) in Asians.
2. To use any new information about CHD in Asians in order to improve the care of people.
3. To investigate the limitations of care and treatment of Asians with CHD.

The presentations included epidemiology of diabetes amongst Asians (Dr. Cruickshank), profile of cardiovascular disease (Dr. Shaukat) and role of insulin resistance in cardiovascular disease (Dr. Connell). This was followed by four syndicate sessions, wherein audience actively participated. Syndicate topics included screening for CHD in practice (Dr. Shaper), hypertension, ethnic variations (Dr. Beevers), quality assurance in clinic settings (Mrs. Burden), health cost and quality adjusted life years (Dr. Thurston). An overview of the available prevalence studies on diabetes mellitus in India and amongst migrant Indians in Malaysia and Guyana was presented by Prof. M.M.S. Ahuja from India.

A resume of the various presentations at the Symposium follows.

Presentation entitled "Diabetes in People of Indian Subcontinent", by Dr. J.K. Cruickshank (University clinical epidemiology unit and Manchester Diabetes Centre) brought out the following significant data.

Prevalence of diabetes amongst Asians compared to White Caucasians increased markedly (1½ to 3 times) especially after the age of 45 years. Fasting and post prandial plasma insulin values showed that though the fasting values were comparable, postprandial values amongst the Asians were twice

that of the Caucasian Whites. Mortality rates amongst the Asian diabetics were 3 times higher while those due to the CHD were 15 times more than the White Caucasians. The higher mortality was especially in relation to high plasma glucose values in this group.

In Leicester, proteinuria in the Asians was observed to occur twice as commonly as the White Caucasians. Cruickshank felt that the excess abdominal fat and insulin resistance were not sufficient metabolic aberrations to explain the cardiovascular infliction and enlarged the scope of pathogenesis to a chronic imbalance between energy and exercise, increased free fatty acids which affected insulin hepatic extraction and thus hyperinsulinemia and atherogenesis. He referred to some recent work indicating actually that pro-insulin with split products may prove to be atherogenic especially in such populations.

Dr. N. Shaukat from the Dept. of Cardiology, University of Leicester in his presentation on the incidence of CHD among Asians traced, historically, the Indian emigration to foreign lands from mid-eighty's the first being to Mauritius. The first recognition of a higher prevalence of CHD amongst migrant Indians was in a Singapore based population in mid-ninety's. He presented an up-to-date chronology of the reported series and indicated that there are differences even amongst some ethnic groups amongst Asians like Gujratis, Bengalis and Punjabis.

Though serum cholesterol was recognized as an important risk factor, triglycerides, and HDL cholesterol values were variable in different groups. Lp (a) was similarly not uniformly affected. Risk factors for Asians have to be different from White Caucasians. Smoking rates are lower amongst Asian Indians; the proportion with high blood pressure is the same as observed in the White Caucasians. Factor VII C and fibrinolytic function has not been adequately investigated so far. Dr. Shaukat stated that while in 1993 CHD is the cause of death in 1 out of 6, the calculation predicted that at the present rate of increase in life expectancy, this rate will rise to 1 in 3 by the year 2008.

* *Sitaram Bhartiya Institute of Science and Research, New Delhi.*

Prof. J.M.C. Connell, MRC Blood Pressure Unit, Glasgow spoke on "Insulin Resistance, the Missing link".

Amongst the newly diagnosed NIDDM, patients hypertension was being detected in 39% cases. With associated hypertriglyceridaemia, it increased the risk of cardiovascular disease by 1.6 times. There was data to indicate that salt sensitive individuals especially with a family history of hypertension have hyperinsulinaemia as well. Insulin resistance seems to be in relation to essential hypertension and is not observed in secondary hypertension due to hyperaldosteronism or reno-vascular disease.

The determinants of insulin sensitivity seem to be age, male sex, BMI, W/H ratio and physical inactivity.

In different racial groups especially Indians, Creols and Whites there is some relationship between blood pressure and fasting plasma insulin while there is no such relationship amongst Pima Indians, Blacks or Chinese. Prof. Connell speculated that the pathogenesis could be a reduced target tissue blood flow, abnormal function of insulin receptors, abnormal cellular glucose metabolism. Regular cellular action of insulin, regulation of membrane function, ion flux, and G proteins has been found to be disturbed. He further reviewed the effect of insulin on the renal Na retention, sympathetic over-activity, decreased Na, K ATPase, Na⁺, H⁺ pump and increase in intracellular calcium.

Prof. Connell observed that comparative current data on anti-hypertensive agents indicated that there is no selective metabolic disturbance affecting serum potassium, fasting blood glucose, or serum insulin value due to the prolonged use of any of such drug. Meta analysis indicates that while the anti-hypertensive therapy was beneficial in stroke, it has only a marginally beneficial effect in CHD.

In syndicate sessions Prof. A.G. Shaper, Royal Free Hospital, London outlined the statistical value of risk factors for cardiovascular disease based on his population studies in 18 countries in U. K.

The risk factors include family history, body mass index, smoking and physical activity. In addition to blood glucose, serum cholesterol, or blood pressure and abnormal ECG increases predictivity for cardiovascular morbidity. At the general practice level, scoring system (FH, BMI, smoking and physical activity) could identify subjects that require

further investigations like the ECG or serum cholesterol.

Dr. D.G. Beevers (Dept. of Medicine, University of Birmingham) discussed hypertension in various ethnic groups in U.K. In Blacks the relationship to increased sensitivity to dietary salt intake has been reported. Amongst Blacks, stroke is more frequent. Criteria for detection of blood pressure (WHO \geq 160/90 mm Hg; American Heart Association \geq 140/90 mm Hg) indicate emerging trends to treat all hypertensives so that the endorgan damage could be prevented. The anti-hypertensive drugs should be selected cautiously, depending on age, race and other associated health problems.

Quality assurance was discussed by Mrs. M.L. Burden, RGN, Leicester Diabetes care, based on four issues; instrumentation (blood pressure apparatus, glucometer); physical data (weight, height, foot-shoe examination, visual acuity, pupil dilation); observations on control criteria (treatment compliance and follow up) and educational inputs (teaching of self care techniques). Quality assurance has become an essential ingredient of diabetes care especially if St. Vicent's declaration objectives have to be met with.

Dr. N. Thurston, Dept. of Medicine, University of Leicester discussed quality of life and health care. He made special efforts to indicate that search for reversible risk factors e.g. body weight, smoking, physical inactivity, blood pressure and lipids is essential. Intervention at the primary stage of screening could be a very effective method of reducing the increasing burden of coronary heart disease.

He referred to a number of analyses looking at the cost of screening and treatment of QALY (Quality Adjusted Life Years). It is now possible to compare a number of screening programmes in terms of cost per QALY. The technique permits comparison of the cost of interventions such as angioplasty or coronary artery bypass graft surgery in patients with ischaemic heart disease.

"Diabetes-pandemic in Asia" was covered by Prof. M.M.S. Ahuja, Diabetes Foundation (India), New Delhi.

Prof. Ahuja reviewed a recent epidemiological study in India in diabetes mellitus. In the rural India, prevalence rates are low and in the last 15 years have continued to remain low. No developmental activity has taken place in rural areas and the living

standard ahs not changed. However, recent data in the urban parts of the country is showing a distinct increase in the prevalence of diabetes from 2% (in mid 70's) to 5-6% at present (in 1990's) Data on expatriat Indians who migrated eastward to Malaysia or westward to Guyana, presently in the second or third generation showed a sustained high prevalence rate of 13.4% and 13.8% respectively. Dr. Ahuja hypothesised that such studies bring into focus the biological age of the population which is now becoming vulnerable to diabetes. Anthropometric changes due to alterations in diet, or physical activity, life style changes relating to an attitude towards more materialistic values in life and individualistic living pattern.

Dr. Ahuja also summarized data on the cardiovascular complications in Indian residing in India. WHO, MNSVD and ICMR collaborative studies, provide data comparable to White Caucasians data in many respects. In mortality data, cardiovascular deaths accounted for 28.5% in India, while Guy's data in U.K., it was 39%. Endstage renal disease accounts for 27.8% of deaths in India, while in U.K. it was 5.4%. Mortality rate amongst diabetics admitted to A.I.I.M.S. CCU was related to HbA1c value on admission. Diabetics with poorly controlled glycaemia had 10 times more risk of

death on admission compared to diabetics with good glycaemic control.

In measuring the success of this symposium, one would say that it provided a data base information on high prevalence of coronary heart disease and diabetes mellitus amongst the Asian Indians in U.K. An awareness of various risk factors was brought out, also indicating that contributing causes such as increased dietary fats, elevated serum triglycerides and increased insulin resistance may have more to contribute in this ethnic group. However, intervention could not be discussed at length.

The participants while being quite interactive did not seem to receive the message as to what strategy to adopt in early diagnosis, management-issues or referrals. A format of questions raised during the symposium has therefore been prepared and appears as addendum to this report. Replies are based on consensus as reviewed by Dr. A.C. Burden, Convener of the symposium.

ACKNOWLEDGEMENT

Invicta Ltd. sponsored this symposium and their inputs for organising the symposium are gratefully acknowledged.