A-09: Predicting ischemic heart disease using a questionnaire

Champa Bandusena, C T K Fernando, S S Rajamanthri, M G Rathnayake, P H G S M Wijekoon, Malini Udupihille, Shanthi Mendis

(Dept. of Medicine, Faculty of Medicine, Univ. of Peradeniya)

A cardiovascular questionnaire (London School of Hygiene) originally developed by Rose has been used in epidemiological studies to elicit a history of angina and/or severe chest pain as indicators of ischemic heart disease. In several populations, reports by epidemiologists and clinicians have confirmed the ability of this simple instrument to identify subjects with ischemic heart disease. In certain populations this questionnaire has been reported to be poorly specific for females. In the present study the validity of this questionnaire was examined with a view to its use as a screening tool for ischemic heart disease in population studies.

Subjects were regarded as having definite angina if they answered yes to (a) Do you ever have any pain or discomfort in your chest? and (b) when you walk uphill or hurry, does this produce pain? In addition 4 additional criteria had to be satisfied: (i) the distribution of pain had to be in retrosternal or left mammary areas (ii) the subject slowed down or stopped when the pain occurred (iii) the pain went away if he stood still and (iv) did so in less than 10 min. Possible angina was diagnosed if chest pain was present on exertion (walking uphill or hurrying, but did not fulfil all 4 additional criteria.

Subjects were regarded as having possible myocardial infarction if they answered yes to (a) Have you ever had a severe pain in your chest lasting for half an hour or more? and (b) the distribution of the pain was in retrosternal or left mammary areas.

The questionnaire was administered by 4 trained interviewers to 158 males (age range 37-75 years) and 45 females (age range 40-75 years), who had been previously clinically diagnosed as having ischemic heart disease at the Teaching Hospital Peradeniya and to 229 males and 187 females of comparable age range, who had no clinical evidence of ischemic heart disease. The interviewers were unaware whether subjects had ischemic heart disease or not at the time of interview.

In predicting ischemic heart disease the greatest specificity (true negative rate) was achieved with men reporting both definite angina and a history of severe chest pain (possible myocardial infarction). This strategy (evidence of definite angina and possible myocardial infarction) achieved a specificity of 97% for males and 98% for females. However the sensitivity (true positive rate) was only 13% for males and 10% for females.

In contrast, in men reporting definite angina and/or possible myocardial infarction, specificity was 84% and sensitivity was 74%; a positive predictive value of 77% and a negative value of 82%. For females this strategy achieved a specificity of 83% and sensitivity of 71%; a positive predictive value of 50% and a negative predictive value of 92%.

If the combination of any angina and/or possible myocardial infarction were used to diagnose ischemic heart disease specificity was reduced to 70% in males and 75% in females.

The sensitivity increased slightly to 76% in males and 78% in females. With this less stringent diagnostic criteria the positive predictive value for males and females were 63% and 43% respectively. The negative predictive values were 81% and 93% for males and females respectively.

This study confirms the ability of this questionnaire to identify subjects with ischemic heart disease in our population. The results do not indicate that there is a significant difference in specificity of the questionnaire between males and females in the Sri Lankan population. Based on the findings of this study it is recommended that the combination of definite angina and/or possible myocardial infarction be used to diagnose ischemic heart disease, when using this questionnaire for screening for ischemic heart disease in epidemiological studies. This questionnaire may also be used to identify a high risk group (of subjects with ischemic heart disease) for immediate preventive care, for research assessment for possible interventions.

A-10: Effect of alcohol consumption on hypertension

Shanthi Mendis, R Wickremasinghe
(*Dept. of Medicine and Community Medicine, Faculty of Medicine, Univ. of Peradeiya*)

Circumstantial evidence supporting a causative effect of alcohol on hypertension comes from reports of a relatively high prevalence of abnormal