

Association of selected risk factors and the number of grafts at Coronary Artery Bypass Graft (CABG) surgery: A preliminary study

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Coronary Artery Disease (CAD) is associated with multi-factorial risk factors; i.e. family history, hyperlipidemia, obesity, hypertension, diabetes, environmental and life style variables. The study attempted to find the association of some selected risk factors (family history, hyperlipidemia, hypertension and diabetic) and the number of grafts (> 3 or 3 by considering the middle point as the maximum number of grafts bypassed at surgery is five) of the patients (n=73) who underwent CABG at Cardiothoracic unit of Sri Jayewardenepura General Hospital (Ethical Approval No.635/12). Data on family history, hyperlipidemia, hypertension and diabetes were gathered by using an interviewer administrated questionnaire. The patients were categorized into two groups depending on the number of coronary artery bypass grafts as those who have had 3 grafts (n=38) and > 3 grafts (n=35) irrespective of the gender. The prevalence of family history, hyperlipidemia, hypertension and diabetes of patients with 3 grafts were 63%, 71%, 79% and 50% respectively. The prevalence of above risk factors in patients who had > 3 grafts was 40%, 51%, 62%, and 54% respectively. From the total group 4% of patients did not have any of the above risk factors. The results indicate that hypertension was the most prevailing risk factor in both the groups. However, a significant difference was seen only between family history and number of grafts ($p < 0.05$, $\chi^2 = 3.9$). The odds ratio of >3 grafts being bypassed at surgery for patients with any of the four risk factors were 2.6 (95% CI: 1.0-7.0), 0.4 (95% CI: 0.2-1.2), 2.0 (95% CI: 0.7-6.0), 1.2 (95% CI: 0.7-6.0) respectively compared to those who had been bypassed with < 3 grafts at surgery. Even though not significant individuals with hypertension are also twice likely to have > 3 grafts bypassed at CABG. According to the above results contribution of hyperlipidemia to augment the number of grafts is less. Early detection and treatment for hypertension thus may contribute to reduce the number of grafts being performed at CABG. A significant contribution to increase the grafts (> 3) being bypassed at CABG is observed in individuals with a family history compared to other risk factors studied irrespective of the gender or age.

Keywords: Coronary artery diseases, risk factors