

CORRELATION OF RISK OF OPERATIVE MORTALITY AND ANTHROPOMETRIC MEASUREMENTS OF PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFT (CABG): A PRELIMINARY STUDY

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Anthropometric parameters that reflect fat distribution in the body such as waist circumference (WC), waist to hip ratio (W:H) and Body Mass Index (BMI) are commonly used parameters in identifying the risk of development of cardiovascular disease (CVD). EuroSCORE II is a recently introduced method to calculate the operative mortality or quality of cardiac surgical care of patients who are to undergo CABG. When the score is high the risk of the surgery is high. The high incidence of CVD in Sri Lanka has resulted in an increase in CABG surgeries performed. Thus this study attempted to correlate selected anthropometric measurements of patients with CVD and EuroSCORE II to observe the effectiveness of usage of anthropometric measurements to predict operative mortality instead of EuroSCORE II.

Patients who were awaiting CABG at Cardio-Thoracic unit of Sri Jayewardenepura General Hospital were studied. Among the randomly selected patients, 23 were males (age 57.4±11.1) and 12 were females (age 57.7±9.8). Weight, height, WC and hip circumference of each patient were measured. The value of EuroSCORE II was calculated by an online calculator using patient's data entered in the Bed Head Tickets.

Anthropometric parameters of males [WC (92±7 cm), W:H (0.99±0.05), BMI (24.0±3.3 kg/m²)] and females [WC (102±11 cm), W:H (1.02±0.05), BMI (26.4±3.6 kg/m²)] were higher than normal except for the mean BMI of male patients which was within the normal range. Forty percent (40%) of the total group were overweight (BMI > 25 kg/m²); with 30% of males and 58% of females. When considering WC, 65% (WC > 90cm) of males and 100% (WC>80cm) of females were in the risk group. According to W:H ratio 100% of both males and females were in the risk group. Mean value for EuroSCORE for males (1.52±0.77%) and females (1.87±1.04%) were calculated. Negative correlations between Euroscore II with BMI (r=-0.13 p>0.05), W:H ratio (r=-0.01 p>0.05) and a positive correlation with WC (r=0.11 p>0.05) were observed in male patients. Among the females, positive correlations with BMI (r = 0.26 p > 0.05), W:H ratio (r=0.12 p>0.05) and WC (r=0.47 p>0.05) were observed.

The W:H ratio of all patients were higher than the normal reference range even though a negative correlation was observed with Euroscore II. However, the above data indicate based on EuroSCORE II among the anthropometric parameters WC in females is a better indicator to predict the operative mortality. Thus controlling central obesity specially in females may contribute to reduce the risk of CVD and improve the outcome of CABG.

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