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## Effectiveness of maximum functional capacity (VO<sub>2</sub> Max): An assessment tool for preoperative suitability in cardiac surgery - A descriptive cross sectional study from Pakistan

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**Objective:** There has been an increase in the number of cardiac surgeries and there is a growing need to predict the morbidity, mortality and quality of life in patients following such surgery. According to recent studies preoperative identification of patients at risk of postoperative cardiac complications is readily achievable using noninvasive cardiopulmonary exercise testing (CPET). This study evaluated the value of  $VO_2$  max testing in the preoperative assessment of patients undergoing elective cardiac surgery and whether poor preoperative cardiopulmonary reserve and comorbid state dictate high risk status and predict complications in patients undergoing elective cardiac surgery.

**Methods:** A descriptive cross sectional study is being carried out at Armed Forces Institute of Cardiology and National Institute of Heart disease, Rawalpindi, Pakistan. All the patients undergoing elective CABG surgery were included according to inclusion criteria. Data were collected on functional status, postoperative complications and survival.

**Results:** Initial analysis revealed a mean age of 52 years  $\pm$  10.37 and majority of male patients with a mean BMI of 25.1 $\pm$ . Mean VO2 max at admission was 13.6 $\pm$ 4.3 whereas VeO<sub>2</sub> and VeCO<sub>2</sub> were (46.7 $\pm$ 25.4) (30.1 $\pm$ 15.72) respectively. Postoperatively our cohort of patients had a mean ICU stay of (54.4 hrs $\pm$ 58.09) and ventilation time of 5.3hrs $\pm$ 4.38. Majority of the patients were weaned off with mild inotropes and only one patient had per-operative IABP insertion. In our study preoperative VO<sub>2max</sub> cardiopulmonary status positively correlates with postoperative prolonged ICU stay and ventilation time at Pearson coefficient r=0.422, r=0.485.

Conclusion: CPET is a useful adjunctive test for predicting postoperative outcome in patients being assessed for cardiac surgery.

### Biography

Imitiaz Ahmed Chaudhry obtained his Fellowship in General Surgery in 2004 and later completed his second Fellowship in Cardiac Surgery from College of Physicians and Surgeons, Pakistan in 2011. He completed one year training (IMGSS) in Cardiothoracic Surgery at Queen Elizabeth Hospital Birmingham UK, in 2013. He is working as a Consultant Cardiac Surgeon at Armed Forces Institute of Cardiology and National Institute of Heart Diseases, Rawalpindi, Pakistan. He is a member of Research Department, Institutional Ethical Review Board and in charge of Adult Cardiac Surgery Database. He has published more than 10 papers in reputed scientific journals.

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