Is Fear of Movement Associated with Functional Mobility After Coronary Artery Bypass Graft Surgery? A Case Series

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Background & Purpose: It is well known that long-term functional status is negatively impacted in patients post cardiac surgery. Recent research has indicated that there is a high fear of movement in patients with Coronary Artery Disease (CAD). The purpose of this case series was to assess if fear of movement was associated with functional mobility in patients post Coronary Artery Bypass Graft (CABG) surgery.

Case Description: Six patients ranging from 66 to 83 years old underwent CABG surgery at an acute care hospital. Each participated in a pre-surgery educational class, which included the prescription of sternal precautions. Patients received physical therapy on average of thirty minutes per day for five days. Interventions included: patient education (i.e. sternal precautions), vital signs monitoring for upright activity tolerance, progressive ambulation to promote cardiovascular fitness, lower extremity strengthening for transfers, task modification of transfers and bed mobility with adherence to sternal precautions, and in-task functional training (i.e. sit to stand transfers from the toilet). Quantitative and functional lower extremity strength was assessed by manual muscle testing using the Medical Research Council (MRC) sum-score, and the Five-Times-Sit-to-Stand test (FTSST), respectively. Functional mobility was measured by the 10 Meter Walk test (10MWT), pain by the Numeric Pain Rating Scale (NRS), and fear of movement by the Tampa Scale for Kinesiophobia Heart (TSK-SV Heart).

Outcomes: There was a strong correlation between fear of movement and distance ambulated at baseline (r=0.600) but not at discharge (r=0.029). At initial evaluation, five out of six patients had TSK-SV Heart scores consistent with a high fear of movement. By discharge, half of the patients had low fear of movement, but there was no significant change in the average TSK-SV Heart score from baseline to discharge. Further, there were no significant differences in the functional mobility of high fearing versus low fearing patients. However, pain was significantly lower at discharge (p=0.031), along with a significant increase in the total distance ambulated (p=0.031). Furthermore, all but one patient demonstrated a substantial change in gait velocity by discharge as indicated by a MCID criterion of 0.13 m/s.

Discussion: The outcomes of this case series suggest that high fear of movement was
common after CABG surgery. Patients demonstrated less pain, and ambulated farther distances from initial evaluation to discharge. While there were no statistically significant associations in the sample between fear of movement and the functional variables, further research in a larger, more diverse sample is necessary to determine the clinical significance and determine correlations between fear of movement and functional mobility after CABG surgery.

References: Must include 5 current references (less than 10 years old):


