

Benefits of Preoperative Cardiac Work-up for Geriatric Hip Fracture Surgery

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Purpose: Our objective was to analyze the relative appropriateness and impact of various preoperative work-up pathways on the complications, time to surgery (TTS), and length of hospital stay (LOS). Ultimately, this information will be used to develop new protocols to avoid unnecessary delays and decrease costs related to preoperative evaluation and overall hospital care.

Methods: This was a retrospective chart and medical record review of 373 hip fractures in 373 patients aged greater than 65 years between January 1, 2017 and December 31, 2018. Data collection included patient demographics and comorbidities, consulted services, preoperative work-up, TTS, LOS, and postoperative course (including complications and disposition). American College of Cardiologists/American Heart Association (ACC/AHA) guidelines were used to determine the appropriateness of preoperative cardiac work-up. Patients were divided into 1 of 3 groups: Group 1, medicine consult without cardiac work-up; Group 2, medicine consult with cardiac work-up; and Group 3, medicine and cardiology consultation with cardiac work-up. Descriptive statistics were utilized for continuous variables. An analysis of variance (ANOVA) was performed to compare groups. Statistical significance was defined as $P < 0.05$.

Results: 20% ($n = 76/373$) of the patients received a preoperative cardiac work-up, of which only 45% ($n = 34/76$) met ACC/AHA guidelines for work-up. Overall, only 11% ($n = 8/76$) of the patients with a cardiac work-up had any alteration in their medical management. Mean TTS was significantly less for Group 1 patients not receiving a cardiac work-up (26 hours) compared to both Group 2 patients undergoing a cardiac work-up (37 hours) and Group 3 patients undergoing a cardiac work-up (47 hours) ($P < 0.001$). Mean LOS was also significantly less for Group 1 patients not receiving a cardiac work-up (142 hours) compared to Group 3 patients undergoing a cardiac work-up (207 hours) ($P < 0.01$). The mean LOS for Group 2 patients was similar to Group 1 patients (145 hours and 142 hours, respectively).

Conclusion: The results indicate that the vast majority (90%) of patients undergoing preoperative cardiac work-up do not have any alteration in their care either preoperatively or postoperatively. Preoperative cardiac work-up, particularly via cardiology consultation unnecessarily delays time to surgery and increases LOS. Cardiac optimization has the potential to significantly decrease costs of care by decreasing LOS and TTS.