

A Subset Analysis: Understanding Factors Leading to Surgical Delay for Patients with Hip Fractures

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BACKGROUND

Timely surgical intervention for hip fractures is critical, as delays beyond 24 hours after admission is associated with increased morbidity and mortality. (1)

- A study reviewing hip fracture morbidity & mortality at our institution revealed time to the Operating Room (OR) exceeds this. (Fig. 2)
- One frequently cited contributor to increased wait times is the use of preoperative Transthoracic Echocardiograms (TTEs).
- This study reviews the subset of patients receiving preoperative TTEs and examines the frequency of findings requiring a medically necessary delay to surgery; with the aim to develop and implement a standardized hip fracture protocol at our institution. (2)

OBJECTIVE

This project is to assess the medical necessity of preoperative TTEs in hip fracture patients and to determine the frequency of findings requiring a delay to surgery. The target is a reduction in time to surgery through a standardized protocol clarifying when TTEs are necessary for preoperative optimization.

References



Ex.: RESULTS

Figure 1: Patient Grouping Workflow

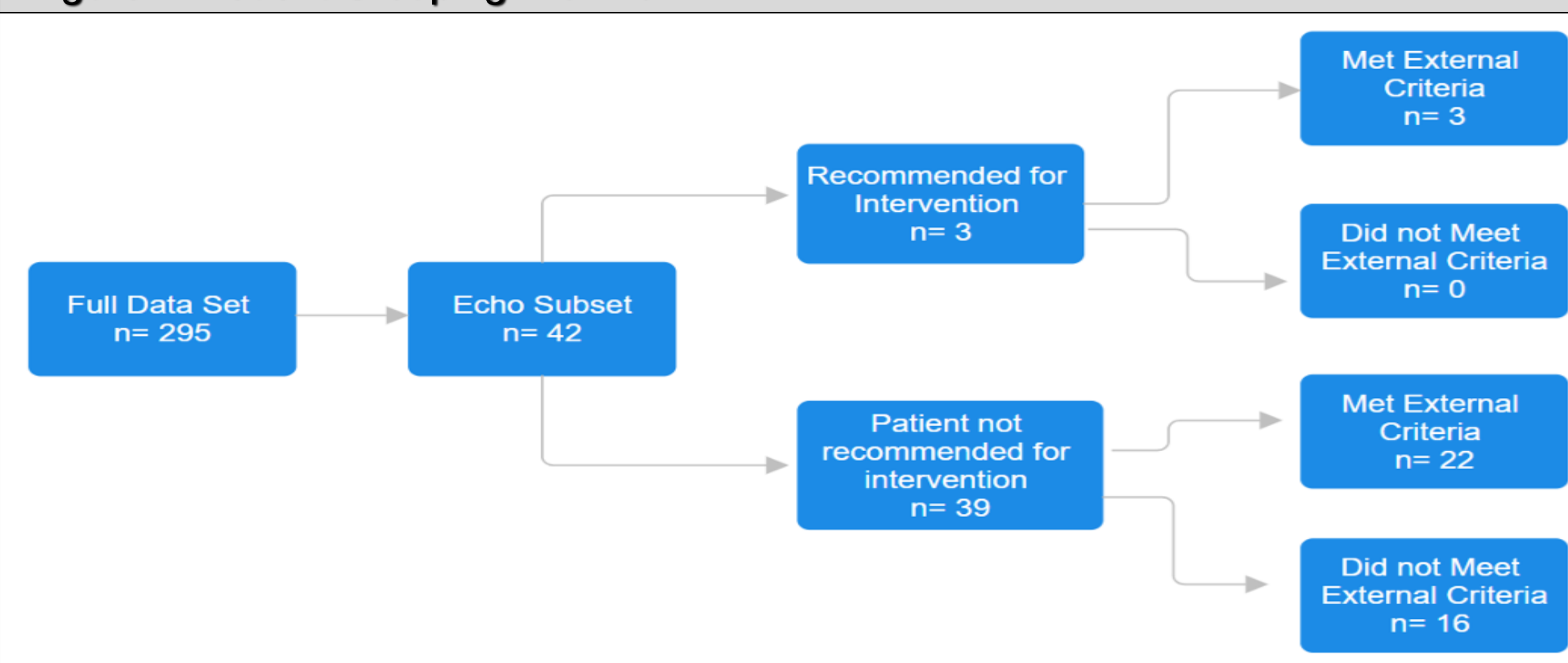


Figure 2: Average Time to Surgery in Hours

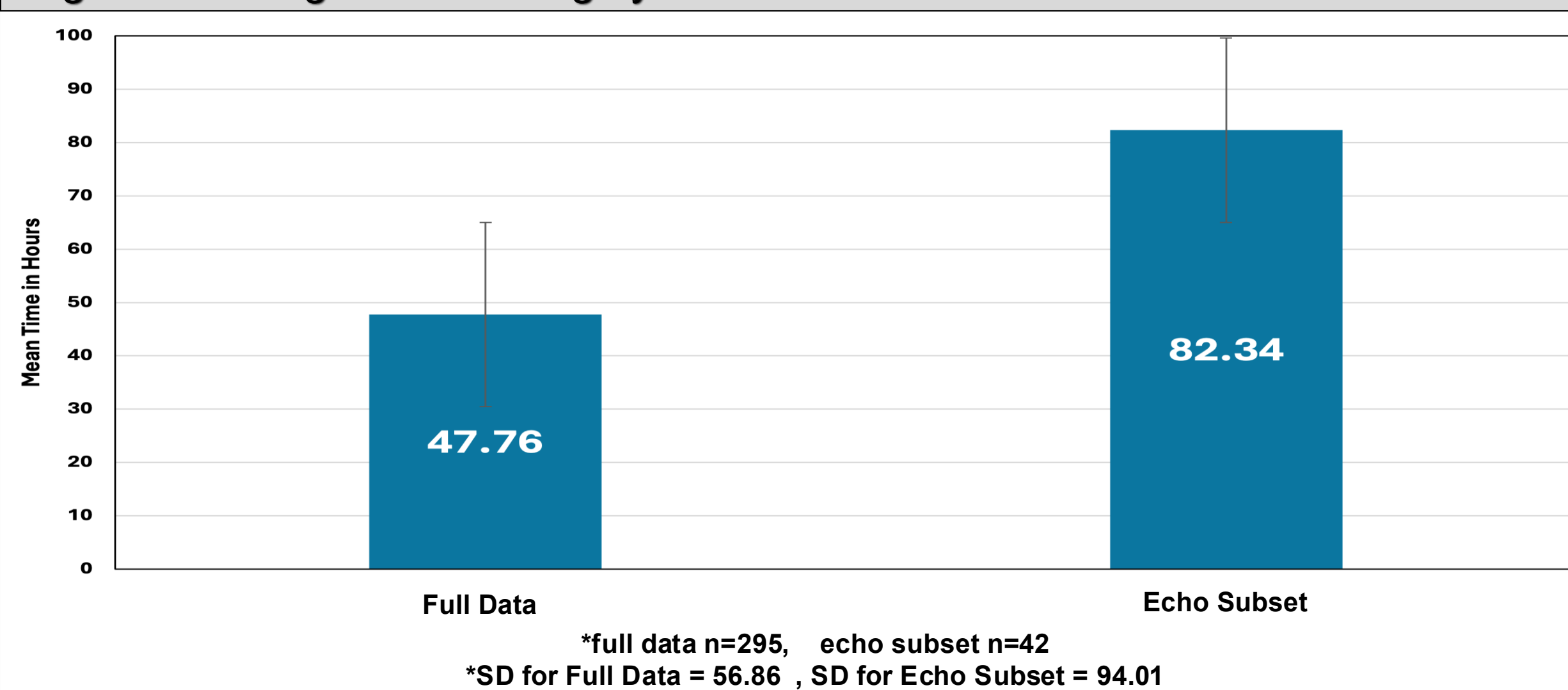


Figure 3: UCSF Protocol Example Cardiac Guidelines

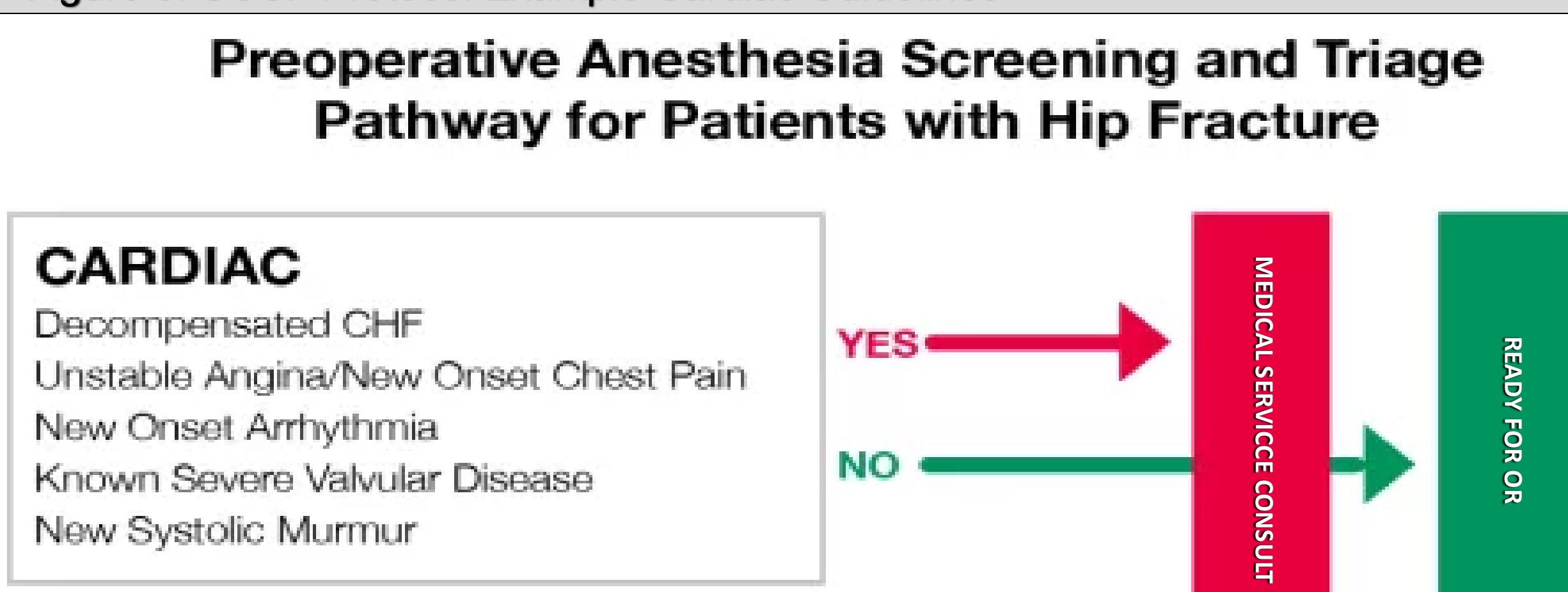
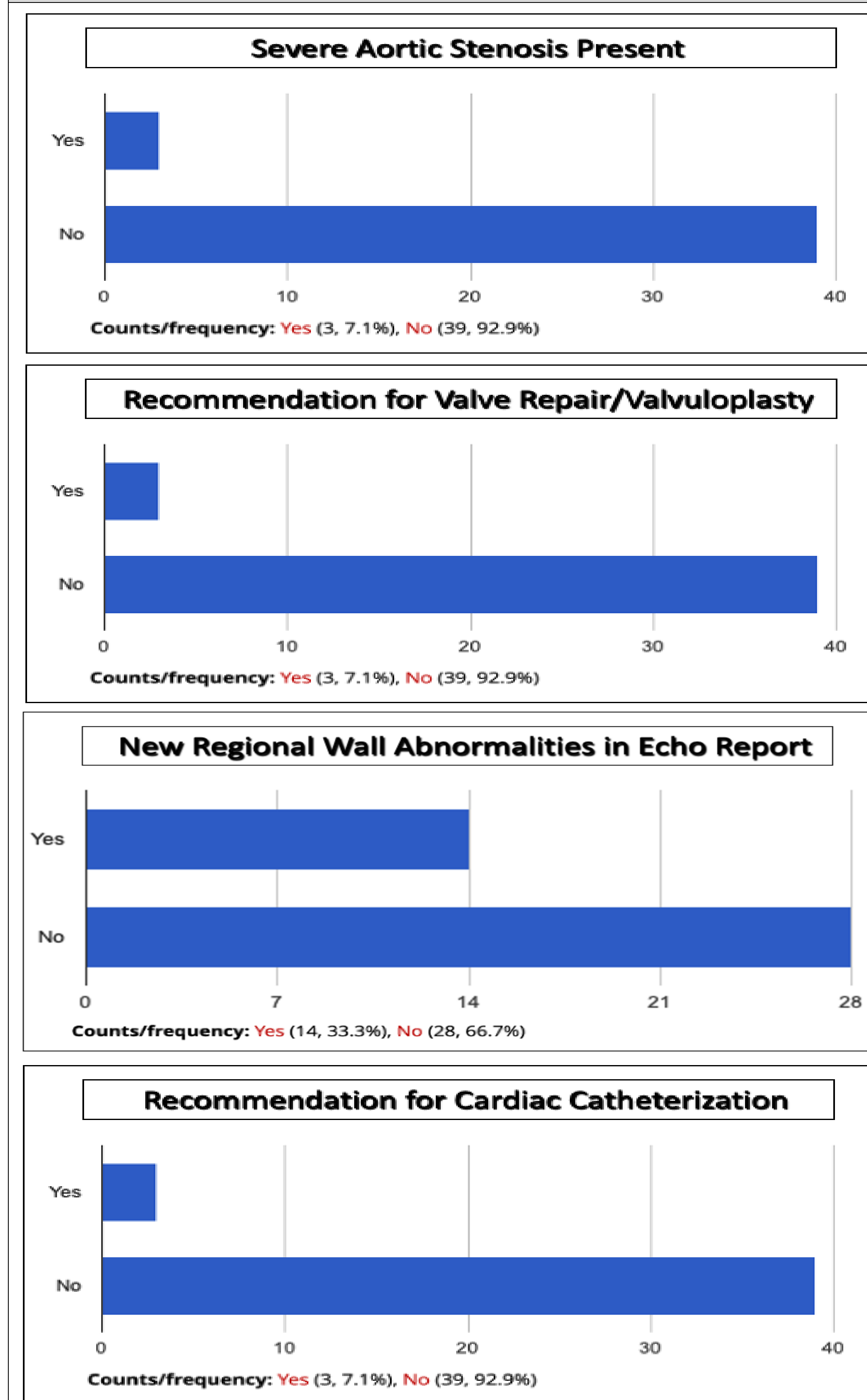


Figure 4: Distribution of Cardiac Consult and TTE Findings



METHODS

We conducted a retrospective chart review of a subset containing 42 patients admitted with hip fractures between Jan. 2016 and Dec. 2020 who underwent TTE prior to surgery. (Fig. 1)

Key metrics included:

- Date of admission and surgery
- Presence of a cardiac consult
- Significant TTE findings (e.g., new regional wall motion abnormalities, severe aortic stenosis) (Fig. 4)
- Other preoperative interventions (e.g., cardiac catheterization or valvuloplasty)
- Consult meeting external criteria. (Fig. 3)

CONCLUSION

Preoperative cardiac consults and TTEs significantly delay surgery in hip fracture patients. In our cohort, 38% (16/42) underwent these evaluations without meeting the external criteria (Fig. 1), extending the average time to surgery from 47.76 hours to 82.34 hours for patients who received a TTE. (Fig. 2) Since delays beyond 24 hours are associated with increased morbidity, mortality and length of hospitalization, implementing a protocol clarifying when to obtain cardiac evaluations may improve patient outcomes.

FUTURE DIRECTIONS

Protocol Development and Implementation: Create a standardized hip fracture pathway modeled after UCSF's protocol to guide the appropriate use of cardiac consults and TTEs.