The Heart Team: From Concept to Implementation

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Background

Heart Team is a multidisciplinary group that performs a comprehensive review of the complex patient, evaluates potential treatment options, and assists the physician in making informed decisions. The Heart Team has been endorsed as a class I recommendation by both European and American professional societies. However, widespread application of the multidisciplinary Heart Team has been inconsistent. There is wide variation in what constitutes a Heart Team and how it is differentiated from a case conference.

Goals and objectives of our Heart Team

Our goal in developing a Heart Team was to provide a clear review of the critical elements of patient selection, testing and treatment options, while providing physicians a forum for discussion of patients with complex cardiovascular disease. Our vision was to create a multidisciplinary team with robust conversations that lead to improved and informed decision making for patients and families.

Process Improvement

A multi-day process improvement event (RIE) was held to identify barriers and gaps in care along with standard work to address these issues. The work completed included:

- Criteria for ad hoc PCI
- Criteria for admission from Cath Lab
- Catheterization to CABG process
- Pre-op guidelines for evaluation (testing and consultation) for surgery
- Criteria for outpatient optimization prior to surgery (i.e. heart failure, anemia, diabetes, deconditioning)
- Process of communication with patient, nursing, physicians regarding preoperative evaluation and decision process

Current State

Meeting every Tuesday 06:45 A.M

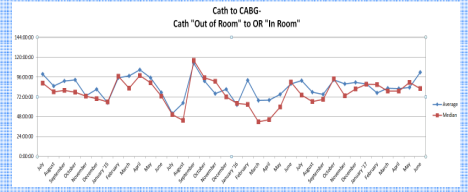
Average of 20 physicians present and 7 complex patients reviewed at each meeting

Patients Where Heart Team Referral is Strongly Encouraged

- High risk anatomy
- EF <25%
- Double valve with EF <30%
- Difference of opinion between providers
- Unprotected left main
- Complex CTO
- Complex TAVR or Heart Failure that requires revascularization
- Declined for surgery
- Any patient the physician would like reviewed

Process Improvement Outcomes of the Spectrum Health Heart Team

- Reduction of preoperative length of stay from time of heart cath to CABG from 7.8 to 4 days
- Better understanding of reasons for surgical delays
- Improved understanding of procedural limitations between cardiologist and cardiothoracic surgeons
- Improved communication between cardiology and cardiothoracic surgeons



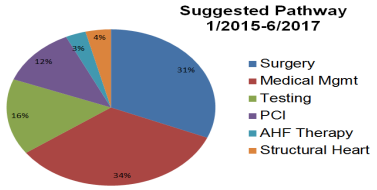
Heart Team 1/2015-6/2017

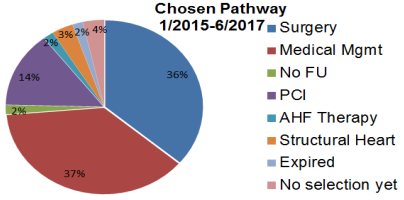
835 patients reviewed

30 day mortality	7.8%
1 year mortality*	8.3%
30 day readmission	8.4%

*For patients 1/2015-6/2016

Patient	**75 year old female admitted with CHF, pleural effusions, NSTEMI, DKA; referred from outside hospital after failed PCI of calcified LAD**
Major CoMorbidities	GI Bleed this admit (small gastric ulcer, moderate erosive duodenopathy Anemia (Hgb 9.4) Isch CM CKD (Cr 1.02 GFR 53) Peripheral neuropathy PVD Morbid obesity (BMI 41) Chronic UTI Fever this admit Fatty liver Sedentary
Testing Results	• Cath EF 35%, LM distal 50%, LAD proximal calcified 99% • Echo EF 35% anterior apical hypokinesis, moderate/severe AS AVA 0.96 • TEE EF 30%, mild/moderate AS max gradient 17.8 • Cardiac MRI LVEF 35% RVEF 55%, mild AS AVA 1.8, viable anterior wall • STS Mortality 10.89% M/M 49.485% • EuroSCOREII Mortality 17.35% • Syntax 28 • 5 meter walk 9 seconds
Discussion Points	• Very high risk for surgery • Anterior wall viable by MRI • Significance of LM unclear but at least borderline • Recent PCI prevents immediate rotational atherectomy
Decision	• Excessive risk for surgery due to co morbid conditions. • Wait 1 month for healing of PCI then Impella assisted rotational atherectomy & stent LAD. IVUS, FFR Left main and stent if indicated. • No treatment of AS needed presently. TAVR in future if indicated.





Conclusions

The Heart Team has standardized and improved our quality and efficiency of care. We believe the single most important aspect of a Heart Team should be to add value to the clinician via concise patient presentation, with relevant imaging review, and efficient multidisciplinary discussion. As a result, complex cardiovascular patients receive an optimally coordinated and individualized plan of care from which they may make a fully informed decision.

Disclosures: None of the authors have disclosures