

Same Day Discharge versus Overnight Stay in Patients Undergoing Elective Percutaneous Coronary Intervention: A Pilot Project

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Introduction

- This pilot project focused on implementing a same day discharge (SDD) protocol after elective, uncomplicated percutaneous coronary intervention (PCI) at a community hospital in northern New Jersey.
- The Society of Cardiovascular Angiography and Interventions (SCAI) released recommendations supporting SDD as a safe and feasible alternative to overnight stays (ONS) (Seto et al., 2018).
- SDD was occurring at this facility without a protocol to guide the discharge assessment process.

Background and Significance

- With only 26% of interventional cardiologists in the United States routinely implementing SDD after elective PCI, there is a need for the more widespread and uniform use of an SDD protocol (Seto et al., 2018).
- Approximately 600,000 PCIs are performed in the U.S. annually and more than half are elective procedures (Amin, et al., 2018).
- Traditionally, ONS was considered necessary but with improved stent delivery and technology, complications occur at rates of 0.05-0.1% (Manda & Baradhi, 2018).
- SDD protocols improve patient safety by ensuring comprehensive assessment of discharge criteria (Seto et al., 2018).

Aim & Objectives

- This project aimed to implement a SDD protocol after elective PCI that adhered to the 2018 SCAI recommendations at a community hospital in northern New Jersey.

Objectives

- Developed a SDD checklist based on the 2018 SCAI recommendations as a guide for SDD after elective PCI.
- Determined whether the SDD checklist improved screening and assessment of post PCI patients.
- Analyzed the results to determine if there was a correlation between SDD or ONS and the occurrence of adverse cardiovascular events within 30 days of the procedure.
- Assessed patient satisfaction, perception, and comfort with being discharged the same day both before discharge and within 24 hours of the procedure.
- Evaluated staff perceptions of the SDD discharge protocol and identified any barriers to SDD implementation.

Methodology

Project Design

- Quality improvement design focusing on improving the SDD process and assessment

Setting

- 255 bed community hospital in northern New Jersey, preforms approximately 1,000 cardiac catheterizations annually; approximately half are elective PCIs.

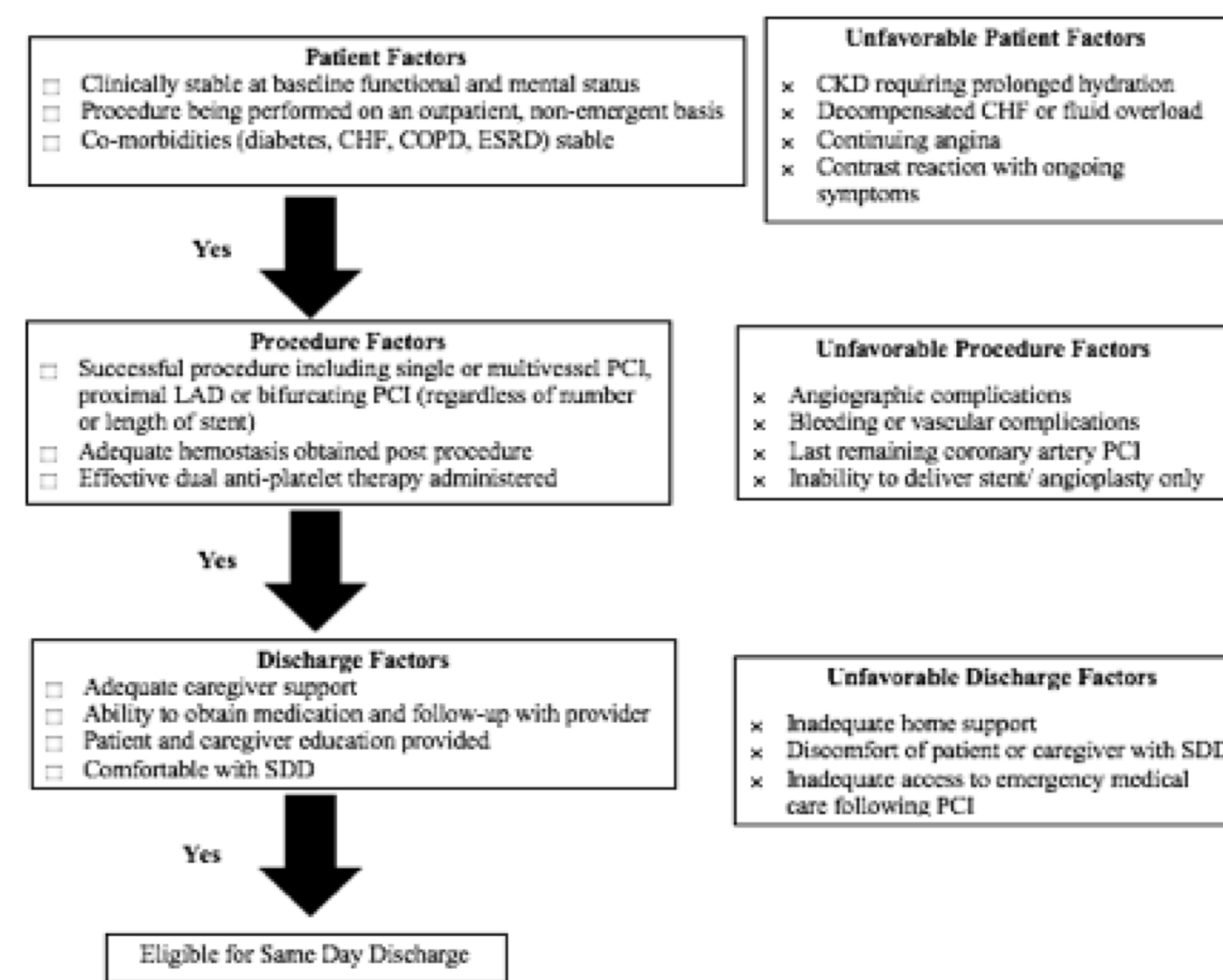
Project Population

- People who had elective, uncomplicated PCI;
- Age 18 and older;
- Met the 2018 SCAI criteria for SDD.

Intervention

- Implementation of a SDD protocol based on the 2018 SCAI recommendations. Participant identification using a SDD checklist.

Same Day Discharge Checklist



- Due to resistance inhibiting complete change of current practice, this pilot project served as the first phase of protocol implementation. This project focused on following two groups: SDD and ONS group and evaluated three outcomes: patient satisfaction, readiness for discharge, and adverse cardiovascular outcomes.

Outcomes Measured

Patient satisfaction and Readiness for Discharge

- Measured by phone survey within 24 hours of discharge.
- Survey questions focused on overall experience, discharge and medication instructions, and readiness for discharge.

Adverse Cardiovascular Events

- Second follow up by phone survey at 30-days post procedure focusing on the occurrence of any adverse cardiovascular events within 30 days
- Chart review also completed at 30 days

Results

Demographic Data	SDD Group (n=10)	ONS Group (n=6)
Age (in years)	Range: 59 to 86 Mean: 70.4	Range: 61 to 80 Mean: 68.8
Gender	Male: 7 Female: 3	Male: 3 Female: 3
Have you had a PCI before?	Yes: 5 No: 5	Yes: 4 No: 2
Past Medical History	Type 2 Diabetes Mellitus: 4 Heart Failure: 0 High Blood Pressure: 10 High Cholesterol: 8 Kidney Disease: 0	Type 2 Diabetes Mellitus: 1 Heart Failure: 0 High Blood Pressure: 6 High Cholesterol: 5 Kidney Disease: 0

Patient Satisfaction and Readiness for Discharge

- All participants in each group responded “excellent” when asked about their overall catheterization laboratory experience.
- Participants were also able to provide feedback about their experiences and what could be done to improve the discharge process after PCI. Four participants (three in the ONS group and one in the SDD group) stated that although they knew their prescribed antiplatelet medication was important to take, they were not clear on the reasoning behind this and required further explanation.
- All participants in each group stated they would have been or were comfortable with SDD.

Adverse Cardiovascular Events

- There were no patients who had adverse cardiovascular events within 30-days of procedure (patient reported or chart review).

Likert Scale Questions for Patient Satisfaction	SDD Group (n=10)	ONS Group (n=6)
How would you rate your overall experience in the cardiac catheterization laboratory?	Excellent: 10 Good: 0 Average: 0 Below Average: 0 Poor: 0	Excellent: 6 Good: 2 Average: 0 Below Average: 0 Poor: 0
How well were your discharge instructions explained?	Excellent: 9 Good: 1 Average: 0 Below Average: 0 Poor: 0	Excellent: 4 Good: 2 Average: 0 Below Average: 0 Poor: 0
How well were your anti-platelet medications explained?	Excellent: 9 Good: 1 Average: 0 Below Average: 0 Poor: 0	Excellent: 4 Good: 2 Average: 0 Below Average: 0 Poor: 0

Likert Scale Questions for Readiness for Discharge	SDD Group (n=10)	ONS Group (n=6)
SDD: I felt ready to be discharged to be discharged the same day of my procedure. ONS: I would have felt comfortable being discharged the same day of my procedure.	Strongly Agree: 10 Agree: 0 Neither Agree or Disagree: 0 Disagree: 0 Strongly Disagree: 0	Strongly Agree: 5 Agree: 1 Neither Agree or Disagree: 0 Disagree: 0 Strongly Disagree: 0
SDD: I would have preferred an ONS. ONS: I felt an ONS was necessary.	Strongly Agree: 0 Agree: 0 Neither Agree or Disagree: 0 Disagree: 0 Strongly Disagree: 10	Strongly Agree: 0 Agree: 0 Neither Agree or Disagree: 0 Disagree: 0 Strongly Disagree: 6
Both Groups: How ready did you feel for your discharge?	Not ready at all: 0 Somewhat not ready: 0 Slightly not ready: 0 Slightly ready: 0 Somewhat ready: 0 Fully ready: 10	Not ready at all: 0 Somewhat not ready: 0 Slightly not ready: 0 Slightly ready: 0 Somewhat ready: 0 Fully ready: 6

Discussion

Patient Satisfaction

- Overall patient satisfaction was equal and excellent in both groups., regardless if they had a SDD or an ONS. These findings contradicted the results of Chen, Lim, and Marshall (2019) who found an increase in patient satisfaction in the SDD group.
- An unintended result of the 24-hour follow-up surveys was the requests by participants for additional education about medications.
- This information helped to re-structure the way discharge instructions are presented after PCI.

Readiness for Discharge

The results supported SDD because all participants agreed that they felt fully ready for discharge. The ONS group all agreed they would have felt ready to be discharged the same day.

Adverse Cardiovascular Events

No participant experienced any adverse cardiovascular event or readmission within 30-days supporting the safety of SDD when compared to ONS.

Implications

Clinical Practice

Potential to re-structure cardiac catheterization laboratory practice to include the routine use of SDD

Quality and Safety

- There were no adverse cardiovascular events in either group supporting the safeness of SDD when criteria is met.
- All participants agreed they would have preferred a SDD if able.
- Based on this information, SDD has the potential to improve the perception of quality care received by patients when SDD is clinically feasible after PCI.

Potential for Future Research

- Recreate similar study with a larger sample size to generalize findings
- Further research into provider resistance to SDD despite research supporting it’s safety and efficiency

Conclusion

- At a community hospital in northern New Jersey, SDD was occurring without a protocol to guide the process. This pilot project implemented a SDD protocol to guide the SDD process as well as standardize eligibility criteria and discharge assessment.
- There were no participants who experienced adverse cardiovascular events in either ONS or SDD groups. This supports research findings that SDD is a safe alternative to ONS in an uncomplicated, elective PCI (Amin et al., 2018; Seto et al., 2018).
- Participants in both groups were overall satisfied with their care and preferred SDD if given the opportunity (Alyasin et al., 2016).
- Although the results of the project were not statistically significant, they do show potential for SDD protocol implementation and possible further research with a larger sample size.

References

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