285297 - SIMULTANEOUS PERCUTANEOUS TRICUSPID AND MITRAL VALVE REPAIR : A CASE REPORT

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Introduction

Percutaneous edge-to-edge mitral valve repair using the MitraClip device represents a novel, less invasive treatment option for patients with symptomatic severe mitral regurgitation [1]. Percutaneous tricuspid valve repair has been described as technically feasible in patients with severe functional tricuspid regurgitation unsuitable for surgery [2]. This case report describes a patient who received both procedures at the same intervention.

Methods and Results

A 80-year-old woman with previous history of hypertension, atrial fibrillation, multiple previous TIA's was referred to the Structural Heart Clinic for evaluation of valvular disease due to progressive functional decline and peripheral edema. Upon work up she was found to have severe tricuspid regurgitation and moderate mitral regurgitation. She underwent a Mitraclip procedure and a tricuspid clip procedure at the same intervention under general anesthesia with transesophageal echocardiography guidance. The patient tolerated the procedure well. She was extubated at the end of the procedure and discharged from the intensive care unit on post-operative day 1. A post-operative transthoracic echocardiography showed mild mitral regurgitation and mild to moderate tricuspid regurgitation.

Discussion

MitraClip procedure has become a more acceptable technique for high-risk patients with severe mitral regurgitation with over 15.000 cases done worldwide. Recently percutaneous tricuspid valve repair became an alternative for patients with severe symptomatic tricuspid regurgitation and high risk for surgery, however very few cases of simultaneously tricuspid and mitral valve repair have been reported.

References:

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284057 - FACTORS WHICH ENHANCE THE IMPLEMENTATION OF A NEW ELECTRONIC MEDICAL RECORD IN THE PERIOPERATIVE ENVIRONMENT

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Introduction:

Implementing a new electronic medical record (EMR) system at an academic health institution is an expensive endeavor. Certain factors may improve this transition and allow for productivity similar to pre-implementation status sooner. Our institution has had an EMR since 2000 and an Anesthesia Information Management System (AIMS) in the perioperative environment since January 2002. A systematic review of previously reported EMR implementations from 2000-2011 demonstrated negative impacts including changes to workflow and work disruption. Mixed observations were found on EHR quality, adoption and satisfaction.[1] Another systematic review specifically addressing EMR implementations in hospitals demonstrated recommendations based on content, context, and process.[2] Our objective was to investigate which factors allowed to increase provider comfort level in the transition to a completely new EMR system. Factors that increase provider level comfort in the implementation of a new EMR system in the perioperative environment has not been investigated or published.

Methods:
After obtaining Institutional Review Board approval, anesthesia providers were selected for participation from a large academic health system implementing the EPIC system. One week prior to implementation, a pre-implementation survey was sent to all anesthesiologists and nurse anesthetists. Each survey respondent was given a unique identifier. Following a three-month transition period, a follow up survey was sent to all pre-implementation survey respondents. Respondents were given a $5 coffee card for completing each survey. Survey responses from those who responded to both surveys were analyzed. Analyses were conducted using Stata v12 (College Station, TX).
Results:
The response rate for the pre-survey was 54%(87/160). The pre-implementation survey elicited information on length of experience as an anesthesia provider,

knowledge with the EPIC system, provider comfort level, and factors which would make adoption to the new system easier at the front end. The response rate for the post-survey was 75% (65/87). Factors which were most significantly increased provider level comfort were repetitive use and interaction with a Super User. Having an on-site trainer, shadow charting, playground environment, and a training checklist were less helpful (.23-.36) than originally speculated.

Discussion:
EMRs offer tremendous potential to improve quality, productivity, and outcomes in patient care, but they also represent one of the most significant and expensive changes healthcare organizations may undertake. Implementation of a new EMR in the perioperative environment poses many unique challenges. We have identified factors which may make this transition smoother from a provider and cost standpoint for an academic health center or organization.

References:
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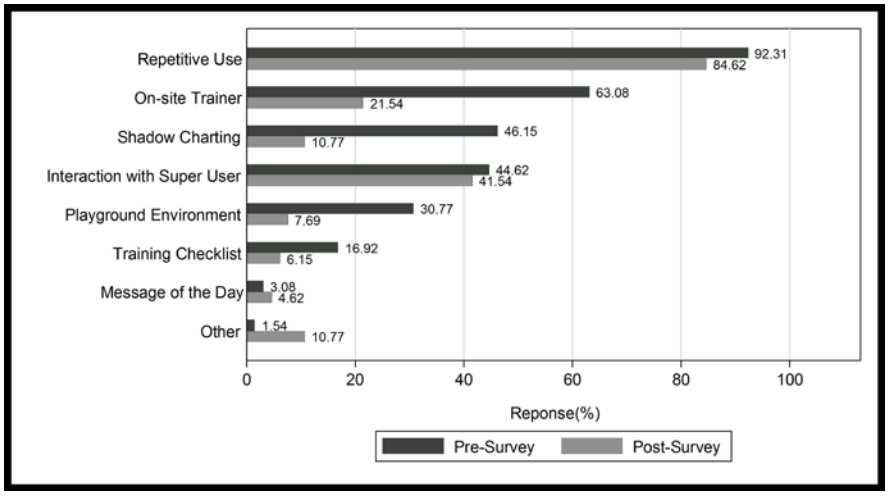
1. Nguyen, L., et al. (2014). "Electronic health records implementation: an evaluation of information system impact and contingency factors." International Journal of Medical Informatics **83**(11): 779-796.
2.Boonstra, A.et al(2014). Implementing electronic health records in hospitals: a systematic literature review. BMC Health Serv Res. (14):370.
Factors which Enhance the Implementation of a New Electronic Medical Record in the Perioperative Environment



286275 - PHARMACY PREPARED EMERGENCY MEDICATION FOR CARDIAC ANESTHESIA BY. A QUALITY IMPROVEMENT & COST STUDY

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Introduction: Multiple cardiovascular emergency medications (CEM) are recommended to be ready to use before cardiac anesthesia induction(1). The objective of this study was to assess the effect of pharmacy preparation of four CEM in terms of utilization, waste, and economic impact (2).

Methods: Ethics approval was waived for this quality improvement study. A three phase design was used: Pre-pharmacy (2 weeks): anesthesiologists prepared all CEM; Pharmacy (5 weeks): Pharmacy prepared 4 CEM; and Post-pharmacy (2 weeks) anesthesiologists prepared all CEM. Anesthesiologists were free to use CEM independently. A CEM kit with four medications stable for seven days was prepared for every single case by the hospital pharmacy. Each kit contained glycopyrrolate (0.2 mg/ml, one syringe 2 ml), ephedrine (5 mg/ml one syringe 10 ml), phenylephrine (100 mcg/ml, two syringes of 20ml) and norepinephrine (16 mcg/ml one 250 ml bag). Outcomes: Medications administered were obtained from the electronic anesthesia record. Residual CEM were collected at the end of the case and only full syringes and bags minus one syringe load for boluses were considered waste. The cost of CEM administered and wasted was compared between phases.

Results: Only direct costs were analyzed. Medication used was collected in 153 cases (Pre=41, Pharmacy=73 and Post=40). The estimated cost of CEM administered was C$ 7,017.09 (C$ 45.86 per case). There were no differences in proportion of cases receiving any CEM between phases. Phenylephrine cost was significantly lower during pharmacy phase (Pharmacy C$6.75 □3.46, Pre: C
$p < 0.001$). Other medications did not show cost differences between phases. There were significant differences between anesthesiologists and total CEM cost ($\chi2(9) = 26.13$, $p = 0.002$). The waste information was collected in 70 cases (Pre=27, Pharmacy=35, Post=21). The estimated cost of the CEM wasted was C$ 1,420.93 (C$ 20.29 per case). There were no differences in CEM waste between phases although there was an increasing trend during the pharmacy phase related to vasopressin use. Approximately one-quarter (26.3%) pharmacy CEM medications were returned unused and used for another case, with projected savings of C$7,674.00 for 1,000 cases.

Conclusion: Waste of CEM in cardiac anesthesia is substantial with a projected direct cost of C$20,290.00 per 1,000 cases in a year. Pharmacy preparation of CEM seems to be cost effective increasing the medications expiration.

References:

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2. Atcheson CLH, Spivack J, Williams R, Bryson EO. Preventable drug waste among anesthesia providers: opportunities for efficiency. *J Clin Anesth*. 2016;30:24-32. doi:10.1016/j.jclinane.2015.12.005.