Medication Compliance on the Day of Surgery for Patients Seen at Anesthesia Pre-Op Clinics: Retrospective Chart Review

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Medication Compliance

- Medication compliance is a far-reaching problem in medicine
- (Non)adherence rate estimated at 50%
- Difficult to estimate noncompliance
  - Self-reported
  - Serum levels/markers
- Patients tend towards non-adherence
- Reconciliation also an issue

JAMA. 2011 Dec;288(22):2868-79
JAMA. 1993 June;268(21):2779-81
Med Clin (Barc). 2012 Dec 15;139(15):662-7
Farm Hosp. 2009 Jan-Feb;33(1):37-42
Pre-operative Evaluation

• Main goal of pre-operative evaluation is to reduce patient risk and morbidity
• Medication reconciliation and instructions vital component of pre-operative visit
• Considerable time spent discussing medications with patients
• No specific recommendations from CAS/ASA regarding medication instructions
• Many studies examining how to optimize pre-operative medication instructions

Clinical anesthesia. 6th ed. c2009. Chapter 23
Anesthesiology 2012; 116:522–38
Compliance In Anesthesia

- Few studies examining perioperative compliance in anesthesia
  - Most examined efficacy of instructions given

- Only one study looked specifically at compliance
  - 13/59 (22%) patients surveyed took their medications in spite of instructions to do otherwise

- Internal Quality Assurance at HHS on compliance
  - Noncompliance rate 36%
  - Recent study as well

Anaesthesia. 2001 May;56(5):481-4
Anaesthesia. 2002 Aug;57(8):805-11
Gravel MA, MacInnis. Medication History: From Pre-Op Clinic to Admission
Predictors of Compliance

• In literature, medication compliance predicted by:
  • Age
  • Race
  • Comorbidities

• In elderly, no specific predictor has been ascertained to predict noncompliance

• Could compliance improve if we could identify those who may not adhere to instructions?
Pre-operative Medication Instructions

• At MUMC pre-operative clinic:
  • Medication reconciliation done
  • Instructions recorded on chart by anesthetist
  • Carbon copy given to patient

• On day of surgery
  • Medication history by nurse in SDS
  • Adherence recorded by nurse
  • Anesthetist reviews chart prior to patient going to OR
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<th>Stop Time</th>
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<th>Stop Date</th>
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Objectives

• **Primary Objective:**
  • To determine the proportion of patients undergoing non-emergent surgery who are non-compliant with medication reconciliation instructions, and to identify predictors of noncompliance

• **Secondary Objective:**
  • To investigate the potential impact of noncompliance
Methods

• Retrospective chart review
  • Six months of data
  • Using noncompliance rate 22% to calculate sample size
  • Sample size of 650 (800 MRNs to be used)

• Inclusion criteria:
  • Six months of patients undergoing surgery at HHS between May 1, 2012 and April 30, 2013
  • Multiple surgeries – only first POHMR to be used

• Exclusion criteria:
  • Age ≤ 17 years
  • Emergency surgery
  • Organ harvest surgery
  • Patients not taking medications
Methods

• Determining compliance:
  • Patient is either compliant or noncompliant
  • Individual medication compliance also recorded

• Possible predictors of noncompliance:
  • Age
  • Gender
  • ASA class
  • Number of medications
  • Type of Surgery
  • Time between pre-op and surgery
  • Reconciliation by pharmacist or anesthetist at clinic
  • Comorbidities
  • Medication class
Methods

• Possible effects of noncompliance:
  • hemodynamic effects
  • hypo-/hyperglycemia
  • bleeding
  • bronchospasm
  • OR delay
  • unanticipated admission

• Data entry done on customized RedCap database

• Regression analysis to be done on possible predictors and possible effects
Methods

• Data sources
  • Patient list from Decision Support
  • Corresponding Meditech information
  • Corresponding scanned chart on Sovera

• Inter-rater audits
  • 20% of monthly data entry will be audited and reconciled by myself
Final Notes

• Larger, more applicable ramifications of study:
  • Efficiencies at pre-operative clinic
  • Identify areas for further study in peri-operative medicine
  • Are we any good at instructing patients?

• Concurrent qualitative study
• Sources of noncompliance
• Benefits of noncompliance?
Thank You

• Thank you to Dr. Paul, Toni Tidy, Maria Pyne, and Lehane Tabane.
• Questions?