Programme de **GESTION THÉRAPEUTIQUE** des médicaments

Postsurgical Discharge Prescriptions for Opioid-naive Patients in University Teaching Hospitals in Quebec: A Descriptive Analysis

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INTRODUCTION

Postsurgical discharge opioid prescriptions may predispose to misuse if overprescribed. The PGTM evaluated postsurgical discharge prescriptions.

OBJECTIVES

- To describe the characteristics of the study population.
- To describe the content of opioid prescriptions.
- To evaluate the amount of opioids prescribed at postsurgical discharge in Oral Morphine Equivalents (OME):
  - Per 24 hours (max 50 mg of OME).
  - Total prescription (max 200 mg of OME).
- To evaluate concordance between opioids administered in the last 24 hours before discharge and the discharge prescription for inpatients.

METHODOLOGY

- Retrospective study.
- Opioid-naive patients.
- **Four targeted surgeries:**
  - Cholecystectomy (CCK).
  - Pulmonary lobectomy.
  - Total knee replacement (TKR).
  - Bowel resections (except anus and rectum).
- **Exclusions:**
  - Opioids use within 30 to 7 days prior to surgery.
  - Opioid use for chronic pain or addiction treatment.
  - Discharge to another hospital, CHSLD, rehabilitation or convalescent centre.
- Collection period: July 1 to December 31, 2019.

RESULTS

Population

- 1,256 patients screened.
- 788 patients (63%) with a scanned discharge prescription in their medical record.
  - 689 patients (87%) with an opioid prescribed at discharge.

Patient and surgical characteristics	PGTM
Mean age	61 years old
Female	59%
Length of stay (median)	3 days (2 to 7 depending on surgery)
One-day surgery	
CCK (n=233)	42%
Lobectomy (n=133)	0%
TKR (n=182)	3%
Bowel resection (n=141)	0%
Scopic procedure	
CCK (n=233)	92%
Lobectomy (n=133)	77%
TKR (n=182)	0%
Bowel resection (n=141)	24%

Prescriptions profile

- Resident prescribers: 64% (440/686*):
  - TKR: 38% (69/180).
  - Open bowel resections: 48% (51/107).
    (*n=3, unknown or missing data)
- Marginal use of pre-written prescriptions: 26% (177/689):
  - Exception: 59% (108/182) for TKR.
- Choice of opioid:
  - Hydromorphone: 65% (446/689).
  - Oxycodone: 29% (198/689).
- 90% of patients received a prescription with the same opioid as that administered during hospitalization.
- For inpatients, 22% (116/519) of prescriptions were written a day or more before discharge and frequently on admission, 70% of which were for TKR. This result is attributable to 2 of the 3 university teaching hospitals.

Information required on the prescription

- Total quantity in number of tablets recorded: 98% (677/689) of prescriptions.
- Number of prescriptions greater than 30 tablets: 34% (232/677).
- Partial-fill orders when more than 30 tablets prescribed: 34% (79/232) of prescriptions.
  - Specified dispensing interval: 43% (34/79) of partial-fill prescriptions.
- Coanalgesic agent:
  - At least one coanalgesic agent: 90% (622/689) of prescriptions.
    - Only 79% (144/182) of prescriptions for TKR surgery.
  - Acetaminophen is the most prescribed agent for monotherapy: 61% (377/622) of prescriptions.
  - Combination of two coanalgesic agents: 34% (234/689) of prescriptions.
    - Acetaminophen + celecoxib at 56% (131/234).
    - Acetaminophen + NSAID other than celecoxib 36% (85/234).
- Rescue naloxone prescription: None.
  - Recommended for consideration in patients with a 24-hour OME of 50 mg or more.

Daily quantity of opioids prescribed at discharge

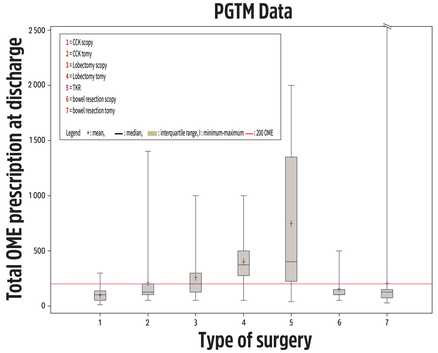
24-hour OME in opioid prescriptions at discharge by type of surgery	All surgeries	CCK		Pulmonary lobectomy		TKR	Bowel resection	
	N=689	Scopy n=215	Tomy n=18	Scopy n=102	Tomy n=31	n=182	Scopy n=34	Tomy n=107
% of prescriptions > 50 mg OME/24 h	272/689 (39%)	20/215 (9%)	6/18 (33%)	44/102 (43%)	19/31 (61%)	131/182 (72%)	14/34 (41%)	38/107 (36%)

In order to decrease the 24-hour OME:

- Variable dose and interval to be avoided.
- Fixed interval recommended.
- A maximum dose-to-dose difference of 50% is recommended. (e.g. Morphine 5 to 7.5 mg every 4 hours instead of 5 to 10 mg)

Total quantity prescribed at discharge

Total OME prescription at discharge by type of surgery



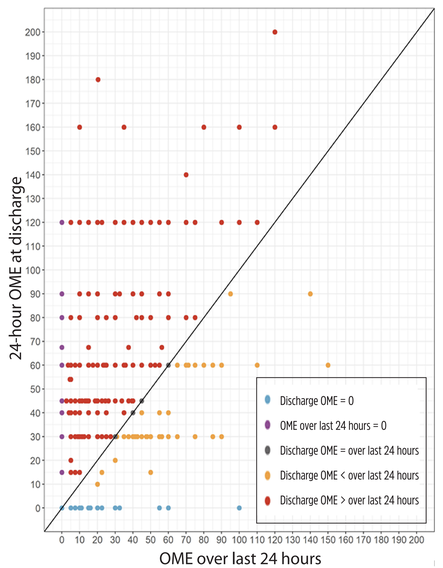
- Median varies by surgery.
- Three surgeries have a median OME equal to or greater than 200 mg: Lobectomies and TKR.
- The interquartile range is large (i.e.greater than 150) for the same three surgeries, with a wide variation in the amount of opioids prescribed at discharge for the same surgery.

Total OME prescription at discharge	All surgeries	CCK		Pulmonary lobectomy		TKR	Bowel resection	
PGTM	n=682*	Scopy n=215	Tomy n=18	Scopy n=100*	Tomy n=28*	n=181*	Scopy n=34	Tomy n=106*
% of prescriptions >200mg Total OME	234/682 (34%)	6/215 (3%)	4/18 (22%)	43/100 (43%)	22/28 (79%)	138/181 (76%)	4/34 (12%)	17/106 (16%)

*Missing data n=7

Concordance between the quantity of opioids in the last 24 hours before discharge and the opioid prescription at discharge.

24-hour OME prescribed at discharge compared to 24-hour OME administered during the last 24 hours of hospitalization



N=540 All sites Source: PGTM

- Patients hospitalized for 2 or more days (n=540):
  - Patients that received opioid prescriptions at discharge (n=455).
  - Patients that did not received opioid prescriptions at discharge (n=85).
- Little correlation between OME over the last 24 hours and 24-hour OME at discharge.
- Some patients were prescribed two to three times the OME quantity administered in the last 24 hours.
- Patients who had not taken opioids in the last 24 hours in hospital (116/455 – 25%) all received opioids prescription at discharge.
- The majority of patients (54/85 – 64%) who were discharged without opioid prescriptions were not taking opioids in the last 24 hours in hospital (supplementary study data).

The pGTm is a joint initiative among Quebec's five university teaching hospitals

CHU de Québec Université Laval · Centre universitaire de santé McGill – McGill University Health Centre · CHUM Centre hospitalier de l'Université de Montréal · CHU Sainte-Justine Le centre hospitalier universitaire mère-enfant, Université de Montréal · Centre intégré universitaire de santé et de services sociaux de l'Estrie – Centre hospitalier universitaire de Sherbrooke, Québec

RECOMMENDATIONS

- Systematically scan the discharge prescriptions into the medical record.
- Rules for prescriptions:
  - Partial-fill prescriptions of more than 30 tablets.
    - specify dispensing interval.
  - Limit the amount allowed per 24 hours to 50 mg OME and the total discharge prescription to 200 mg OME:
    - Except after certain surgeries (e.g. TKR) and for certain patients whose condition requires a higher dose.
    - Use a fixed dosing interval and limit the dose-to-dose difference to 50% maximum.
  - Prescribe naloxone for patients using more than 50 mg OME/24 hours.
  - Offer non-opioid analgesic options on the prescription.
- Evaluate opioid requirements and individualise therapy at discharge for inpatients.
- Develop guidelines for each surgery.
- Develop, implement, and use pre-written prescriptions according to the type of surgery.
- Carry out a follow-up study to see if the implementation of new measures has improved the appropriateness of postsurgical opioids prescriptions at discharge.
- Encourage university teaching hospitals to introduce an electronic prescriber

DISCLOSURE SUMMARY

France Varin, B. Pharm., M.Sc. – nothing to disclose
Suzanne Marcotte, B. Pharm., M.Sc. – nothing to disclose
Chantal Guévremont, B. Pharm., M.Sc. – nothing to disclose
Ghislain Bérard, B. Pharm., M.Sc. – nothing to disclose
Nathalie Marcotte, B. Pharm., M.Sc. – nothing to disclose
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Raghu Rajan, M.D. – nothing to disclose

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