THE HIGHLY OPIOID TOLERANT PATIENT - IMPACT ON HEALTH CARE RESOURCES AFTER SURGERY

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INTRODUCTION / AIM

Approximately 3,200 Nova Scotians are prescribed more than 100 mg of morphine equivalents per day (2012/13 data - NS Prescription Monitoring Program). Individuals requiring the equivalent of 3 mg or more of oral morphine per hour (72 mg per day) for a period greater than 1 month may be considered to have high grade opioid tolerance, otherwise termed highly opioid tolerant (HOT). Some of these individuals require surgery after which they will be admitted to hospital. The HOT individual frequently presents a difficult clinical challenge and is believed to require more frequent admission to the Intensive Care Unit (ICU) post-operatively, to experience more frequent complications and to have longer length of stay (LOS) in hospital.

METHODS

The QEIIHSC Acute Pain Service (APS) database allowed identification of HOT individuals who had presented to surgery from March 2012 to February 2014. The Discharge Abstract Database provided outcome data for each individual (admission to ICU, LOS in ICU (hours) and hospital (days)) and complications experienced (infection and discharge disposition). This information was compared to data collected for age, sex and surgical procedure matched patients (Control) over the same time period. This study was approved by the CDHA Research Ethics Board. Categorical outcomes (e.g., yes/no) were analyzed using 2x2 Pearson chi-squares. Continuous outcomes (e.g., LOS in hospital) were analyzed using independent t-tests.

RESULTS

A total of 367 patients were identified by the APS as being HOT over the two year period representing 1.62% of all patients who were admitted to hospital for 24 hours or more after their surgery. 68% (250) of HOT patients had GI or Ortho/Neuro surgeries. There were too few cases in other groupings i.e. Uro/Gyn, ENT etc to allow for comparison in those groupings. Patients presenting for GI surgery were significantly more likely to be admitted to ICU after their surgery if they were HOT vs. Control (27.3% vs. 7.9%, p=0.002) and had an increased LOS in hospital (25.78 vs. 8.96 days, p<0.001). Patients having Ortho/Neuro surgeries who were HOT had a significantly longer LOS in hospital (8.17 vs. 4.8 days, p<0.001). A subset of Ortho patients (TKR/THR) also had a significantly longer LOS in hospital (8.0 vs. 4.35 days, p<0.001). There were no differences in the incidence of infection or LOS in ICU between the HOT or Control groups.

DISCUSSION / CONCLUSIONS

The results of this study confirm that HOT patients do stay in hospital longer than those who are not HOT and are more likely to be admitted to ICU if they are undergoing GI surgery but not
Ortho/Neuro procedures. This study is subject to several limitations inherent in data that was collected for administrative purposes, not for research purposes, and several surgical disciplines could not be included in the analysis because of small numbers in those disciplines. This study will inform strategies to develop better care models to decrease resources (human and physical) provided to HOT individuals through better pain control, reduced admission to ICU and earlier discharge from hospital.

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