A regional effort: the current landscape of inguinal hernia repair and postoperative opioid prescription practices in Eastern Ontario

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Summary

Inguinal hernia repairs are commonly performed by general surgeons in academic and community centres. The optimal strategy for postoperative analgesia is evolving, particularly because of concerns over opioid prescribing given the current opioid crisis. Efforts to address opioid overprescribing have been emphasized in our academic hospital system. Our survey of general surgeons in Eastern Ontario shows similarities in postoperative prescriptions of nonopioid and opioid analgesics across practice environments. Importantly, awareness of opioid-reduction initiatives was similar between academic and community surgeons. This regional effort is a result of local and national communities of practice fostered by organizations such as the Canadian Association of General Surgeons.

Lifetime incidence of inguinal hernias is approximately 43% for men and 6% for women.[1] Surgical repair is the only definitive cure.[1,2] Despite the frequency of inguinal hernia repair surgery, there is no consensus on optimal postoperative analgesia. Presently, Canada is in the midst of an opioid crisis, with more than 21 000 deaths attributed to opioids since 2016.[3]

A prospective study in London, Ontario, showed improved pain control with multimodal analgesia and decreased use of opioids.[4] There are also guidelines supporting decreased opioid prescribing postoperatively.[5] Studies to reduce postoperative opioid prescribing are underway at our institution, but regional hospitals have not been included. The impact of these studies on practice in these centres is therefore unknown.

Survey

To characterize the current practice of postoperative opioid prescribing in Eastern Ontario, we distributed a survey to general surgeons across the Champlain Local Health Integration Network (LHIN). The Champlain LHIN serves more than 1.2 million people, with 17 hospitals and 70 general surgeons. All practising general surgeons in the LHIN were eligible to complete our survey, and there were no exclusion criteria. Resident physician prescribing was not assessed. We developed the survey and distributed it electronically in September 2020, with a reminder email sent 4 weeks later. It collected anonymous information on practice location and duration, hernia repair techniques, postoperative prescribing, and familiarity with efforts to reduce opioid prescriptions (Appendix 1, available at www.canjsurg.ca/lookup/doi/10.1503/cjs.010221/tab-related-content). The objective was to understand differences between academic and community hospitals in prescribing following hernia repair. A secondary objective was assessment of preferred operative techniques, which could affect prescribing. We hypothesized that opioid prescribing would be

similar in academic and community centres, and that similar operative approaches would be used.

Forty-two responses were received, representing a response rate of 60%. The most common practice duration was 5–10 years (39.4%). Twenty-five respondents (59.5%) practised in an academic hospital. Most (80.5%) surgeons performed elective inguinal hernia repairs, with a median of 40 repairs annually. Most common was the anterior open approach with mesh patch (78.8%). Ten surgeons (30.3%) performed laparoscopic repairs, 6 of whom worked in an academic hospital.

A majority (70.0%) of responders regularly prescribed acetaminophen and a nonsteroidal anti-inflammatory drug (NSAID), 9.1% prescribed acetaminophen alone, and 6.1% prescribed an NSAID alone. Those in academic and community centres were similar with respect to nonopioid prescribing.

Just under half (48.4%) of surgeons prescribed an opioid for all hernia repairs, whereas 69.7% ordered opioids for more than 50% of patients, and 3.0% never prescribed opioids. Hydromorphone was the most commonly prescribed agent (72.7%). Surgeons in both academic and community practices prescribed a median of 10.0 opioid doses, in keeping with published recommendations.[5] Furthermore, 87.9% of surgeons reported awareness of initiatives to reduce opioid prescribing (88.2% of community and 87.5% of academic surgeons). Among community surgeons, 76.5% recognized local efforts to reduce opioid prescribing. Awareness of opioid initiatives was not correlated with quantity of opioids prescribed, though this inference is limited by sample size.

Discussion

This survey-based study of general surgeons in Eastern Ontario highlights the similarities in academic and community practice with respect to opioid prescribing following elective inguinal hernia repairs. As the opioid crisis worsens, surgeons must acknowledge their impact on the prevalence of opioid dependence. Awareness of efforts to prescribe opioids in an evidence-informed fashion is an essential first step in mitigating potential harms, and there is Canadian evidence that these efforts can be successful.[4]

While quality-improvement (QI) initiatives have been implemented in our region's academic hospital, we have shown widespread awareness of opioid-reduction efforts across our region. Broad uptake of this common goal holds undeniable importance in improving care for patients nationally. There are multiple potential reasons for uptake of these QI efforts in surrounding community centres. First, nearly 40% of the surgeons have been in practice for fewer than 10 years and thus completed their training as the opioid crisis gained notoriety. Similarly, in our region, a number of the attending surgeons completed residency training locally and are likely to have carried elements of practice to their new institutions. Additionally, opioid-reduction campaigns, such as "Cut the Count" and efforts by the Ontario Surgical Quality Improvement Network, have targeted many academic and community hospitals alike, though we did not specifically assess their impact in this study.

We also posit the impact residents on rotation in community centres can have on disseminating QI initiatives. Furthermore, the community of practice that exists among Canadian general surgeons has likely been a driving force in the uptake of QI and evidence-informed practices. Specifically, educational outreach initiatives of national organizations such as the Canadian Association of General Surgeons and publications including the *Canadian Journal of Surgery* allow for collaboration and knowledge translation nationwide. While it could be argued that the initiation of similar opioid-reduction efforts is owing to the attention garnered by the opioid crisis, the similarities in surgical techniques, nonopioid analgesic use, and nature of opioids used suggest an element related to regional practice patterns and collaboration.

Conclusion

Our survey of general surgeons across Eastern Ontario has revealed similarities in prescribing for inguinal hernia repairs between academic and community centres. While similarities in operative techniques suggest an element of regional homogeneity, we emphasize that important QI initiatives are extending beyond academic institutions, which can be attributed to surgical training, residency rotations, and the community of practice nurtured by national and provincial organizations. We believe that this model will result in further collaboration across Canada, shifts toward evidence-informed practice, and higher-quality care for Canadian surgical patients.

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References

1. Kingsnorth A, LeBlanc K. Hernias: inguinal and incisional. *Lancet* 2003;362:1561-71.
2. Fitzgibbons RJ, Ramanan B, Arya S, et al. Long-term results of a randomized controlled trial of a nonoperative strategy (watchful waiting) for men with minimally symptomatic inguinal hernias. *Ann Surg* 2013;258:508-15.
3. *Special Advisory Committee on the Epidemic of Opioid Overdoses. Opioids and stimulant-related harms in Canada.* Ottawa: Public Health Agency of Canada; 2020. Available: https://health-infobase.canada.ca/substance-related-harms/opioids-stimulants (accessed 2021 Aug. 13).
4. Hartford LB, Van Koughnett JA, Murphy PB, et al. Standardization of Outpatient Procedure (STOP) narcotics: a prospective non-inferiority study to reduce opioid use in outpatient general surgical procedures. *J Am Coll Surg* 2019;228,81-8.e.
5. *Opioid Prescribing Recommendations.* Michigan: The Michigan Surgical Collaborative Opioid Prescribing Engagement Network; 2021. Available: https://michigan-open.org/prescribing-recommendations/ (accessed 2021 Feb. 2).