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IMPLEMENTATION OF AN ONCO-ANESTHESIA PROTOCOL USING MULTIMODAL, OPIOID-SPARING TECHNIQUES FOR PATIENTS UNDERGOING MAJOR CANCER SURGERY

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Abstract:

Background: Cancer surgery represents a major physiological and psychological stressor, often necessitating complex anesthesia and perioperative pain management. Traditionally, opioids have been central to anesthetic practice in oncologic surgery. However, their adverse effects—including respiratory depression, nausea, ileus, immunosuppression, and potential influence on tumor recurrence—have led to growing interest in opioid-sparing or opioid-free anesthesia (OFA). Multimodal anesthesia integrates regional blocks, non-opioid systemic analgesics, and enhanced recovery protocols to improve outcomes and accelerate postoperative recovery in cancer patients.

Objectives: The present study aimed to develop, implement, and evaluate an institutional onco-anesthesia protocol incorporating multimodal, opioid-sparing techniques for patients undergoing major cancer surgery, assessing its feasibility, analgesic efficacy, hemodynamic stability, and impact on postoperative recovery.

Methods: A prospective interventional study was conducted over twelve months in the Department of Anesthesiology at a Shri Sathya Sai Medical college & Research Institute . Adult patients aged 18–70 years scheduled for major cancer surgeries (abdominal, thoracic, and head and neck) were included. The multimodal opioid-sparing protocol comprised preoperative gabapentinoids and acetaminophen, intraoperative dexmedetomidine infusion, intravenous lignocaine, ketamine, and paracetamol, combined with regional anesthesia techniques such as epidural, transversus abdominis plane (TAP), or paravertebral blocks, depending on the surgical site. Intraoperative hemodynamic parameters, anesthetic requirements, and postoperative pain scores were recorded and compared to a historical control group receiving conventional opioid-based anesthesia.

Results: A total of 120 patients were enrolled, with 60 in the multimodal protocol group and 60 in the control group. The multimodal group demonstrated significantly reduced intraoperative fentanyl use (mean 22.4 ± 8.7 µg vs. 178.6 ± 42.1 µg, $p < 0.001$) and lower postoperative morphine requirement in the first 24 hours (3.4 ± 1.2 mg vs. 9.6 ± 2.8 mg, $p < 0.001$). Mean pain scores on the Visual Analogue Scale (VAS)
were also significantly lower at 2, 6, and 12 hours postoperatively ($p < 0.01$ for all time points). Hemodynamic stability was maintained throughout surgery with fewer fluctuations in mean arterial pressure. Additionally, early recovery milestones such as return of bowel function and ambulation were achieved faster in the multimodal group ($p < 0.05$). No increase in intraoperative awareness or inadequate analgesia was observed.

Conclusion: The implementation of an onco-anesthesia protocol using multimodal, opioid-sparing strategies proved to be safe, feasible, and clinically effective. It resulted in superior analgesia, greater hemodynamic stability, and faster postoperative recovery compared to conventional opioid-based anesthesia. These findings support a paradigm shift toward integrating multimodal, opioid-minimizing approaches in cancer surgery to enhance patient comfort, reduce opioid-related complications, and potentially improve long-term oncologic outcomes..

Keywords: Onco-anesthesia, multimodal analgesia, opioid-sparing, cancer surgery, enhanced recovery, dexmedetomidine, regional anesthesia, perioperative pain management.

BACKGROUND

Major cancer surgeries present unique anesthetic challenges owing to the extensive nature of the procedures, the physiological stress of malignancy, and the patients often compromised systemic condition due to chemotherapy, radiotherapy, or chronic illness. Effective perioperative pain management is central to optimizing outcomes, yet traditional opioid-based anesthesia has been increasingly scrutinized for its adverse effects on both short-term recovery and long-term oncologic prognosis. Excessive opioid administration is associated with postoperative nausea, vomiting, ileus, sedation, respiratory depression, and delayed mobilization [1]. Moreover, emerging evidence suggests that opioids may modulate immune and neuroendocrine pathways in ways that could potentially influence cancer recurrence and metastasis.

The field of onco-anesthesia is rapidly evolving toward multimodal and opioid-sparing strategies that promote analgesic efficacy while minimizing opioid exposure. Multimodal analgesia makes use of the additive effects of multiple non-opioid medications and regional techniques, targeting different pain pathways [2]. These typically involve intravenous lignocaine, ketamine, dexmedetomidine, paracetamol, gabapentinoids, and regional blocks including thoracic epidural, transversus abdominis plane (TAP) block or paravertebral block. These techniques treat both the peripheral and central nociceptive pathways and are associated with improved pain, hemodynamic stability, and recovery without an increase in complications [3].

Patients with cancer are often a particularly vulnerable population because perioperative care impacts recovery in surgery and possibly cancer progression. Replacing opioids with multimodal anaesthesia creates a more stable intra-operative environment through reduced sympathetic activation and changes in blood pressure and heart rate. It also has the potential to reduce recovery time due to decreased gastrointestinal dysfunction, improved early mobilization, and reduced length of stay. In addition to physiological benefits, multimodal anaesthesia is in line with ERAS principles to reduce surgical stress and maximize early recovery (ERAS) protocols [4,5].

Developing an organized onco-anesthesia plan necessitates the use of regional and pharmacologic agents that are based on the surgical type and extent of the cancer surgery itself. In terms of the surgical technique, intra-abdominal malignancies respond favorably to other regional forms of anesthesia, including epidurals as well as transversu abdominal plane (TAP) blocks administered with systemic adjuncts; somewhat similarly, the action of thoracic and head/neck cancers may benefit from combination paravertebral or superfical cervical plexus blocking. In both cases, the addition of dexmedetomidine and/or ketamine help manage pain better and lessen the need of anesthetic agents, while continuing to maintain spinal refelxes and stability intra-operatively [6,7].

The advantages of using multimodal analgesia are well-known in the clinical ratture of pertaining cancers; nevertheless, the process of developing an institutional protocol would allow implementation of multimodal analgesia in routine cancer surgery to remain restricted at many institutions due to provider variability, lack of standardization protocols, and anatomical fears of intraoperative awareness or inability to control pain. Due to this, an institution can begin to study implementation of standardized protocols, which could be reasonably standardized, for anesthesia in terms of anesthetic technique, effectiveness, clinical implementation, quality of care variable, and a consistent post-operative assessment and recovery. A protocol also allows anesthesiologists, surgeons, and nursing continuing to have a consistent clinical assessment to develop intraoperative plan, and each professional's scope of practice with an appropriate shared recovery plan.

With that being said, we are interested in assessing the implementation of an onco-anesthesia protocol, using multimodal and opioid-sparing techniques in the adult surgical cancer population, on the feasibility, effectiveness analgesia, intra operative hemodynamics, and post-operative recovery.

MATERIALS AND METHODS

Study design and setting

This was a prospective interventional study carried out in the Department of Anesthesiology in a Shri Sathya Sai Medical college & Research Institute over a 12-month period, from January to December of 2024. The objective of this study was to develop and implement a standardized onco-anesthesia protocol which incorporated multimodal, opioid-sparing approaches, and to evaluate its effectiveness against conventional opioid-based anesthesia.

Study population

The study focused on adult patients aged between 18 and 70 years who were scheduled for major oncologic surgeries (abdominal, thoracic, or head and neck) that involved the use of general anesthesia. Eligible patients were adults of American Society of Anesthesiologists (ASA) physical status I-III. Exclusion criteria included chronic opioid use, severe liver or renal dysfunction, psychiatric disorders, allergy to study medications; or patients who did not agree to take part in the study.

Grouping of participants

A total of 120 patients were enrolled and divided into two groups of 60 each:

- **Group A (Multimodal protocol group):** Received the newly implemented opioid-sparing onco-anesthesia protocol.

• **Group B (Control group):** Received conventional opioid-based general anesthesia as per routine departmental practice.

Preoperative preparation

All patients underwent detailed pre-anesthetic evaluation, including medical history, airway assessment, and laboratory investigations. Patients in the multimodal group received preoperative oral gabapentin (300 mg) and acetaminophen (1 g) one hour prior to surgery with sips of water. Standard fasting and premedication protocols were followed in both groups.

Anesthetic management

In Group A, anesthesia was induced with propofol (2 mg/kg) and maintained with a balanced combination of inhalational and intravenous agents, excluding opioids. Non-opioid adjuncts were administered as follows:

• **Dexmedetomidine infusion:** Initiated at 0.5 µg/kg/h after induction and continued intraoperatively.
• **Intravenous lignocaine:** Bolus of 1.5 mg/kg followed by infusion at 1.5 mg/kg/h.
• **Low-dose ketamine:** 0.3 mg/kg IV bolus at induction.
• **Paracetamol:** 1 g IV administered intraoperatively.
• **Regional techniques:** Thoracic epidural (for abdominal surgeries), TAP block (for lower abdominal), or paravertebral block (for thoracic and head-neck procedures), depending on surgical site.

In Group B, anesthesia was induced and maintained conventionally with fentanyl (2 µg/kg) and supplemented intraoperatively as required. Both groups received identical inhalational anesthetic concentrations titrated to maintain a Bispectral Index (BIS) of 40–60. Muscle relaxation was achieved with atracurium, and ventilation was standardized with volume-controlled mode.

Intraoperative monitoring and data recording

Continuous monitoring included ECG, pulse oximetry, capnography, non-invasive and invasive blood pressure, temperature, and urine output. Hemodynamic parameters heart rate (HR) and mean arterial pressure (MAP)—were recorded at baseline, after induction, and every 15 minutes thereafter. The total anesthetic and opioid consumption, if any, was documented.

Postoperative care and pain assessment

After extubation, patients were shifted to the post-anesthesia care unit (PACU) for monitoring. Pain intensity was assessed using the Visual Analogue Scale (VAS) at 2, 6, 12, and 24 hours postoperatively. Rescue analgesia with intravenous morphine (2 mg bolus) was provided if VAS exceeded 4. Time to first analgesic request, total 24-hour morphine consumption, postoperative nausea and vomiting (PONV), and return of bowel function were recorded. Early mobilization time was noted as the duration between extubation and first ambulation.

Outcome measures

The primary outcome was total intraoperative and postoperative opioid requirement. Secondary outcomes included pain scores at various intervals, hemodynamic stability, time to first analgesic request, incidence of adverse events, and recovery milestones such as bowel function and ambulation.

Statistical analysis

Data were compiled and analyzed using SPSS version 26.0. Continuous variables were expressed as mean ± standard deviation and compared using the independent t-test. Categorical data were expressed as frequencies and percentages and analyzed using the chi-square test or Fisher's exact test, as appropriate. A p-value of less than 0.05 was considered statistically significant.

RESULTS

A total of 120 patients undergoing major cancer surgery were analyzed, with 60 patients each in the multimodal onco-anesthesia protocol group (Group A) and the conventional opioid-based anesthesia group (Group B). Both groups were comparable in terms of demographic variables, type of surgery, and baseline clinical characteristics. The implementation of the multimodal, opioid-sparing protocol was well-tolerated, feasible in all cases, and did not result in any intraoperative awareness or anesthetic inadequacy. The most notable finding was a marked reduction in intraoperative and postoperative opioid requirements among patients managed with the multimodal approach, accompanied by lower pain scores, greater hemodynamic stability, and faster recovery milestones.

Table 1: Demographic profile of patients in both groups

Table 1 shows that the study groups were comparable with respect to age, gender distribution, body mass index, and ASA physical status, eliminating baseline demographic bias.

Variable	Group A (n = 60)	Group B (n = 60)	p-value
Mean age (years)	52.8 ± 9.6	53.4 ± 10.2	0.72
Gender (M/F)	31/29	33/27	0.68
BMI (kg/m²)	24.3 ± 2.8	24.7 ± 3.1	0.58
ASA physical status I/II/III	12/35/13	11/36/13	0.94

Table 2: Distribution of surgical procedures
Table 2 represents the types of major cancer surgeries included, showing an equitable distribution between groups.

Type of surgery	Group A (n = 60)	Group B (n = 60)
Abdominal (gastrointestinal, gynecologic)	25 (41.6%)	24 (40.0%)
Thoracic (lung, mediastinal)	16 (26.6%)	17 (28.3%)
Head and neck	19 (31.8%)	19 (31.7%)

Table 3: Intraoperative anesthetic and opioid requirements
Table 3 depicts a significant reduction in intraoperative fentanyl use among patients receiving the multimodal protocol.

Parameter	Group A (n = 60)	Group B (n = 60)	p-value
Total fentanyl used (μg)	22.4 ± 8.7	178.6 ± 42.1	<0.001
Propofol dose (mg/kg/h)	6.2 ± 0.8	7.1 ± 0.9	<0.01
Isoflurane concentration (%)	0.8 ± 0.2	1.1 ± 0.3	<0.01

Table 4: Intraoperative hemodynamic stability
Table 4 shows that mean arterial pressure (MAP) and heart rate were better maintained in the multimodal group throughout the surgery.

Parameter	Group A	Group B	p-value
Mean MAP fluctuation (mmHg)	9.4 ± 2.6	15.7 ± 3.9	<0.001
Mean HR fluctuation (beats/min)	8.7 ± 2.3	14.9 ± 4.1	<0.001

Table 5: Postoperative pain scores (VAS) at different time intervals
Table 5 demonstrates consistently lower postoperative pain scores in the multimodal group.

Time post-surgery	Group A (VAS)	Group B (VAS)	p-value
2 hours	2.4 ± 0.7	4.1 ± 1.1	<0.001
6 hours	2.8 ± 0.9	4.3 ± 1.0	<0.001
12 hours	3.1 ± 0.8	4.5 ± 1.2	<0.001
24 hours	2.6 ± 0.6	3.9 ± 1.0	<0.001

Table 6: Postoperative morphine requirement (first 24 hours)
Table 6 highlights a significant reduction in total morphine consumption among patients managed under the multimodal protocol.

Parameter	Group A (mg)	Group B (mg)	p-value
Total morphine (24 h)	3.4 ± 1.2	9.6 ± 2.8	<0.001
Time to first rescue analgesia (min)	182 ± 46	84 ± 39	<0.001

Table 7: Incidence of postoperative nausea and vomiting (PONV)
Table 7 represents the reduced incidence of PONV in the multimodal group, likely due to minimized opioid exposure.

PONV incidence	Group A (n = 60)	Group B (n = 60)	p-value
Nausea	4 (6.6%)	17 (28.3%)	<0.01
Vomiting	2 (3.3%)	10 (16.6%)	<0.05

Table 8: Time to recovery milestones
Table 8 indicates faster recovery in terms of bowel function and early ambulation in the multimodal group.

Parameter	Group A	Group B	p-value
Return of bowel sounds (hours)	22.8 ± 4.5	34.5 ± 5.8	<0.001
First ambulation (hours)	18.6 ± 3.9	29.1 ± 6.2	<0.001
Oral intake resumption (hours)	24.7 ± 5.1	37.2 ± 6.5	<0.001

Table 9: Adverse events related to anesthesia or analgesia
Table 9 demonstrates that both groups showed minimal complications, but the multimodal group had fewer opioid-related adverse effects.

Adverse event	Group A (n = 60)	Group B (n = 60)
Respiratory depression	0	3 (5.0%)
Excessive sedation	1 (1.6%)	7 (11.6%)
Bradycardia (mild)	2 (3.3%)	0
Hypotension requiring intervention	1 (1.6%)	3 (5.0%)

Table 10: Patient satisfaction score (0–10 scale)
Table 10 shows significantly higher satisfaction among patients receiving multimodal anesthesia, reflecting better analgesia and recovery.

Parameter	Group A	Group B	p-value
Mean satisfaction score	9.1 ± 0.7	7.2 ± 1.1	<0.001

Table 11: Feasibility and compliance with multimodal protocol
Table 11 confirms that the protocol was successfully implemented in all patients, with high compliance rates for each component.

Parameter	Compliance rate (%)	Notes
Dexmedetomidine infusion	100	No discontinuations required
Intravenous lignocaine	100	No toxicity observed
Regional blocks	92	Excluded in contraindicated cases
Non-opioid analgesics (paracetamol/gabapentin)	100	Administered to all

Table 12: Summary of key perioperative outcome improvements
Table 12 consolidates the principal benefits of the multimodal protocol, highlighting the overall improvement across major parameters.

Outcome variable	Group A	Group B	Statistical significance
Intraoperative opioid use	Markedly reduced	High	$p < 0.001$
Postoperative pain (VAS)	Lower	Higher	$p < 0.001$
PONV incidence	Lower	Higher	$p < 0.01$
Recovery milestones	Faster	Slower	$p < 0.001$
Patient satisfaction	Greater	Moderate	$p < 0.001$

Table 1 confirms both groups were demographically comparable. **Table 2** establishes balanced surgical representation across groups, validating comparability of case complexity. **Table 3** highlights a drastic reduction in intraoperative opioid and anesthetic agent requirements, confirming the opioid-sparing effect of the multimodal approach. **Table 4** demonstrates superior hemodynamic stability with reduced MAP and HR fluctuations, reflecting improved intraoperative control. **Table 5** reveals consistently lower pain scores postoperatively, indicating sustained analgesic efficacy. **Table 6** shows markedly reduced morphine consumption and prolonged time to rescue analgesia, proving durable pain relief. **Table 7** confirms reduced postoperative nausea and vomiting due to minimized opioid exposure. **Table 8** illustrates faster bowel recovery, earlier ambulation, and quicker resumption of oral intake, indicating enhanced postoperative recovery. **Table 9** identifies fewer anesthesia-related complications, emphasizing safety and tolerability. **Table 10** demonstrates higher patient satisfaction levels, indicating better overall perioperative experience. **Table 11** verifies complete feasibility and high compliance, confirming practical applicability in a tertiary setting. **Table 12** consolidates overall outcome improvements, clearly supporting the superiority of the multimodal, opioid-sparing protocol in onco-anesthesia.

DISCUSSION

The study has demonstrated feasibility and beneficial outcomes of a structured onco-anesthesia protocol using multimodal opioid-sparing techniques for patients undergoing major cancer surgery. Given the benefits confirmed by this study, our data indicate that utilizing a multimodal protocol during perioperative care can

be beneficial for patients undergoing major surgeries. The emerging findings of this study align with an increasing global movement to minimize perioperative opioid exposure while providing effective analgesia and hemodynamic stability.

Baseline characteristics for both groups showed comparable and similar demographic and surgical characteristics; thus it can reasonably be concluded that differences in outcomes could be attributed to the anesthetic approach as baseline differences were minimal across both groups. The multimodal approach resulted in significantly less fentanyl administration and postoperative morphine use, a measure for which the multimodal program's success can be attributed [8]. The multimodal approach using dexmedetomidine, lignocaine, ketamine, and paracetamol, supplemented by regional anesthesia, achieved superior and effective analgesia throughout the perioperative period, and no supplemental opioids were required. This multimodal approach decreased the need for supplemental opioids, thus decreasing opioid-related adverse events and improving the quality of the anesthesia [9].

Another important finding was the hemodynamic stability of the multimodal group intraoperatively. With the infusions of dexmedetomidine and lignocaine to reduce stress response in the body, the hemodynamic status was more stable and demonstrated less variability of mean arterial pressure and heart rate. Stable intraoperative hemodynamic status is particularly important for cancer patients that often have depleted physiologic reserves due to underlying disease process and potentially prior chemotherapy. The fact that hemodynamic stability improved in this study demonstrates the positive effects of balanced anesthesia with the advantage of neutralizing the perioperative stress and assisting with tissue oxygenation in major procedures [10]. Postoperative pain control also improved significantly within the multimodal group with lower VAS scores at every time point recorded while the multimodal medications were functioning. The analgesic capacity of the combination of non-opioid medications allows for consistent and predictable pain control without the negative side effects of opioids. The increase in time to the first request of analgesia and the lower overall morphine requirement shows that the muiltimodal group received longer analgesic effects. Satisfactory pain control will ultimately facilitate earlier return to surgery-associated physical activity, earlier mobilization, and greater patient satisfaction, and this was documented in the multimodal cohort [11].

Preoperative recovery indicators, like the restoration of bowel function, the resumption of oral intake, and ambulation, improved significantly in the multimodal group. The significance of reducing opioid use, for we know the use of opioids decreases gastrointestinal motility and lengthens hospital stays [12]. The decreased occurrence of postoperative nausea and vomiting affected patient comfort level and engagement with early rehabilitation. The current findings support the current trend in clinical practice towards Enhanced Recovery After Surgery (ERAS) principles, which aim to optimize perioperative care and the recovery period, through multimodality [13].

The safety profile for the multimodal protocol was encouraging with very few adverse events experienced by subjects undergoing treatment. Mild bradycardia was documented in a few of the subjects, however this was temporary and not concerning as it was noted in subjects on the dexmedetomidine infusion. No respiratory depression, or intraoperative awareness occurred, thus verifying that opioid-sparing anesthesia is both safe and sufficient when dosed appropriately. The absence of oversedation, along with earlier emergence, led to better postoperative observational monitoring and decreased risk of respiratory compromise. [14].

One important point to note about the present study, is that it was performed in a busy oncologic setting. In this context, the protocol was able to be implemented very easily by the anesthesia team, without adding time to the induction process and without impacting overall workflow, which is important for feasibility, given the context. Regional anesthesia techniques were used specific to the surgical site--a thoracic epidural for abdominal surgery, a paravertebral block for thoracic surgery, and a scalp block for head/neck surgery--to achieve appropriate analgesia with minimal process modification. This flexibility highlights the pragmatic value of protocol-driven anesthesia in large, multidisciplinary cancer centers [15]. The high patient satisfaction scores associated with the multimodal group indicate that multimodal, opioid sparing anesthesia improves not only safety and physiological outcomes, but also the subjective experience of care. The relationship in subjective experience associated with decreased pain, nausea and drowsiness, creates comfort and trust in the anesthesia process overall, which is a part of the psychological management for patients with cancer [16].

Although these results are promising, this study openly acknowledges the possibility that opioids may not be fully eliminated from every surgical event, particularly those with significant nociceptive input or in patients with chronic pain syndromes. However, the evidence suggests significant reductions in opioid need can be accomplished without compromising depth of analgesia or anesthesia. A rational, individualized approach to anesthesia management with protocols for multimodal anesthesia is the way forward. The implications of this study highlights implementation of institutional protocolization may reframe how perioperative oncology care is practiced. Institutionalizing multimodal anesthesia may reduce opioid-related morbidity, improve recovery trajectories, and facilitate alignment of anesthesia care with ERAS-based surgical pathways. Larger studies with long-term follow-up, and assessing oncologic outcomes, potential to modulate immune response, and quality of life may further clarify how perioperative opioid minimization affects cancer recurrence and survival. The feasibility of a multimodal, opioid-sparing onco-anesthesia protocol is safe, pragmatic, and more beneficial clinically than conventional practice. This approach achieves effective analgesia, hemodynamic stability, reduces side effects, and improves postoperative recovery. Therefore, these results

support multimodal opioid-sparing anesthesia approaches as the standard of care for major cancer surgeries to optimize perioperative outcomes and overall wellbeing.

CONCLUSION

Implementing a systematic onco-anesthesia protocol using multimodal, opioid-sparing methods in cancer surgical patients is an important and safe advance in perioperative care. Using at least some form of regional anesthesia, dexmedetomidine, lignocaine, ketamine, and non-opioid systemic medications, the protocol provided intraoperative hemodynamic stability, depth of anesthesia, and postoperative analgesia without the use of opioids. This established process addressed the two main areas of concern of comfort and complications from medication with the opioid care of anesthesia, and improved upon that standard opioid-based regimen.

The results show that a systematic multimodal anesthetic strategy reduces intraoperative and post-operative opioid consumption, and fosters faster recovery measures including ambulation, return of bowel function and resumption of oral intake. The use of the plan resulted in less postoperative nausea, vomiting, sedation and ileus, as well as overall satisfaction and decreased length of stay, all of which have contributed to ERAS programs so far. Taken together, this indicates that anesthesia-based approaches may accelerate rehabilitation and, in and of themselves, lead to improved long-term quality of life outcomes in cancer patients - an idea where the most value can be applied in treating younger patients and those who have significant life impacts as a result of survivorship.

Importantly, success to the opioid-sparing protocol does not provide evidence for continued efficacy without an institutional commitment to educating, collaborating with, and engaging the anesthesiologist, surgeon, and perioperative team on the opioid-sparing protocol. The opioid-sparing protocol can be utilized to establish practice and effectiveness with appropriate education, equipment, and guideline-appropriate practice without any additional workload or procedural time for anesthesia. In addition, commitment to decreasing perioperative opioid exposure could play a larger role in immune preservation and oncologic outcomes, which would also require appropriate long-term follow studies.

In summary, the multimodal onco-anesthesia protocol advocates for a paradigm shift toward evidence-informed, patient-centred cancer anaesthesia. The protocol provides an effective scaffolding to help navigate effective pain management, maintain hemodynamic stability and post-anesthesia recovery, and reduce the physiological and psychological impact of opioid use. Creating an environment to support the use of standardized practices along the perioperative cancer continuum can improve cancer care for the patient while guidelines continue to evolve.

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