International Journal of Research in Orthopaedics
Ganesh A et al. Int J Res Orthop. 2024 Nov;10(6):1437-1440
http://www.ijoro.org

DOI: https://dx.doi.org/10.18203/issn.2455-4510.IntJResOrthop20243149

Letter to the Editor

Hip fractures redefined - ERAS protocol's impact: the Indian scenario

Sir,

This article delves into the profound impact of enhanced recovery after surgery (ERAS) protocols on the management of hip fractures within the Indian healthcare landscape. Hip fractures, particularly prevalent among the elderly, represent a significant clinical challenge, often leading to high rates of morbidity and mortality. The integration of the geriatric fracture center (GFC) model with ERAS protocols offers a sophisticated, multidisciplinary approach that prioritizes early surgical intervention, comprehensive geriatric care, and standardized, evidence-based practices. This synergy has the potential to significantly enhance patient outcomes by reducing hospital stays, minimizing complications, and expediting recovery. However, the implementation of ERAS in India is confronted with distinct challenges, including regional disparities in healthcare infrastructure, economic constraints, and cultural factors that influence patient care. Addressing these barriers is essential for advancing geriatric orthopedic surgery and improving the quality of care for elderly patients with hip fractures in India.

I am writing to draw attention to the significant impact and insightful exploration of ERAS protocols in the context of hip fracture patients. This brings forth a compelling narrative that resonates with the evolving landscape of orthopedic care in India.

Hip fractures are a common event in older adults and are associated with significant morbidity, mortality and costs; particularly noteworthy in the context of our Indian subcontinent. In a study by Basu et al, the GFC is a treatment model that standardizes the approach to the geriatric fracture patient.[1] It underscores the GFC paradigm as a comprehensive remedy for the predicaments stemming from hip fractures in the elderly populace. This framework is founded on a quintet of pivotal principles: expeditious surgical administration, early surgical intervention to preempt complications, collaborative engagement with geriatricians to furnish all-encompassing patient care, the application of standardized, evidence-based therapeutic regimens, and an emphasis on post-operative rehabilitation and reduced hospitalization durations.

The ERAS concept, sometimes referred to as "fast track", "accelerated," or "rapid recovery" surgery, was first introduced in 1997. The concept of ERAS targets factors that delay postoperative recovery such as surgical stress and organ dysfunction. ERAS protocols or programs are a care package of evidence-based interventions used in a multimodal and coordinated clinical care pathway. They represent a multidisciplinary approach directed to reducing postoperative complications, shortening length of hospital stay, improving patient satisfaction, and accelerating recovery. It has been associated with reduced length of hospital stay, readmission rate, and improved functional recovery.[2]

The ERAS protocol is a comprehensive approach to enhance surgical outcomes by optimizing preoperative health, providing patient education, emphasizing non-opioid pain management, favoring minimally invasive techniques, promoting early oral intake and mobilization, ensuring postoperative monitoring and multi-disciplinary collaboration, all guided by standardized protocols. It has demonstrated effectiveness in significantly improving patient outcomes, reducing hospital stays, and lowering complications while enhancing patient satisfaction.

THE PAST

In the 1990s, colonic surgery patients faced extended hospital stays exceeding 10 days due to traditional open surgery and outdated care practices. A group of Danish surgeons, led by Professor Henrik Kehlet, pioneered the ERAS model, achieving a substantial reduction in hospital stays to just 2 days through laparoscopic surgery, epidural analgesia, and early nutrition and mobility. The ERAS Society, founded by surgeons Kenneth Fearon and Olle Ljungqvist, developed evidence-based guidelines for perioperative care. It officially registered in Sweden in 2010, and its protocols expanded to various surgical specialties. National initiatives, like the UK's enhanced recovery partnership programme (ERPP), facilitated broad ERAS adoption across hospitals and specialties, revolutionizing perioperative care.

THE PRESENT

In the 21st century, the ERAS approach, which began modestly, has now gained widespread recognition, with ERAS pathways adopted for surgical patients globally, including national chapters in Europe, the USA, Mexico, Argentina, Brazil, the Philippines, Singapore, and South Africa. Initially focused on colorectal surgery, ERAS pathways have proven beneficial in various specialties, such as cardiothoracic, hepatobiliary, urology, gynecological oncology, and pediatric surgery, among others. Ongoing development and implementation of ERAS pathways allow for continuous review and necessary guideline revisions, supported by evidence

showing shorter hospital stays, reduced complications, cost-effectiveness, and improved quality of life.[4]

BENEFITS OF ERAS

There are a plethora of benefits and advantages of the ERAS protocol, of which some are discussed below. The findings from the meta-analysis demonstrate that applying the ERAS approach leads to a substantial reduction in the time taken to perform surgery, the length of hospital stay (LOS), and the overall complication rate among hip fracture patients. Crucially, these improvements do not result in a higher 30-day readmission rate or increased mortality. These results contribute valuable evidence to the body of knowledge built on evidence-based practices, affirming that the adoption of a standardized ERAS protocol provides significant benefits to individuals suffering from hip fractures.[5]

The independent introduction of an ERAS program tailored for orthopaedic patients with intertrochanteric fractures effectively reduces the median LOS without compromising early functional recovery. The approach for enhancing the program not only facilitates the integration of ERAS protocols but also ensures that the changes made are sustainable with minimal additional resource allocation.[6] ERAS program for patients undergoing hip and knee joint replacement surgery that could allow early patients' discharge (even considering the elderly population) and a quick return to the independency in the daily activities.[7]

ERAS significantly reduces LOS and incidence of complications in patients who have had THA or TKA. However, ERAS does not appear to significantly impact 30-day readmission rates.[3]

BARRIERS TO ERAS

Along with benefits, also come the hurdles and barriers to the implementation of ERAS protocol, of which some are pertinent to the Indian subcontinent. Clinical barriers to implementing ERAS protocols in clinical practice encompass several critical facets. One significant challenge lies in establishing adequate analgesia or blocks within the ERAS framework, ensuring optimal pain management while minimizing opioid use, which can lead to adverse effects. Another hurdle is addressing geriatric cognitive dysfunction, which can complicate patient engagement and adherence, particularly in elderly populations undergoing orthopedic procedures. Striking the right balance between LOS and mobilization is a critical challenge, as shorter stays can enhance recovery but may require an intensive focus on early mobilization. Lastly, measuring and demonstrating the long-term benefits of ERAS implementation can be challenging, requiring ongoing research and evidence to support the enduring advantages of ERAS in clinical practice.

In the pursuit of effective implementation of ERAS protocols, managerial barriers play a pivotal role. Among these challenges, adherence to the protocol emerges as a core issue, as maintaining uniform compliance across healthcare teams can be complex. The availability of dedicated ERAS operating room beds is essential to ensure that surgeries are conducted within the ERAS framework. An optimal staff-to-patient ratio, particularly in the context of nursing-driven care, is crucial to provide the personalized attention required for ERAS success.

Informed consent is a cornerstone of patient autonomy and ethical medical practice. Ensuring that patients fully understand the risks, benefits, and alternatives to a proposed surgery is essential. Overcoming barriers related to communication, language, and cultural differences can enhance the informed consent process, fostering a trusting patient-provider relationship. Early mobilization is vital for preventing complications such as deep vein thrombosis and enhancing overall recovery. Clinical and managerial barriers, such as a lack of dedicated rehabilitation resources or insufficient staffing, need to be addressed to optimize postoperative mobility and improve patient outcomes. Identifying barriers to effective secondary fracture prevention, such as gaps in patient education or limited access to bone health assessments, is essential for implementing comprehensive strategies to reduce the risk of recurrent fractures.

CHALLENGES SPECIFIC TO THE INDIAN SUBCONTINENT

While it's important to note that ERAS protocols can be implemented successfully in many countries, including India, there can be challenges specific to the healthcare system and practices in a given region. ERAS implementation in orthopedics encounters several challenges in the Indian healthcare landscape. Variations in healthcare infrastructure across different regions of the country can impact the uniform application of ERAS principles. Additionally, economic disparities can lead to differences in patient access to and compliance with ERAS protocols. Limited awareness and education among healthcare providers and patients about ERAS contribute to the challenges. Cultural norms and social factors also play a significant role, affecting dietary habits, postoperative recovery, and adherence to ERAS guidelines. Furthermore, India's fragmented healthcare system, encompassing public and private sectors, poses complexities in standardizing ERAS practices. Resource allocation challenges, regulatory barriers, patient compliance influenced by socioeconomic factors and health literacy, the need for robust data collection and monitoring, and healthcare provider resistance to change further complicate the successful implementation of ERAS in orthopedic surgery within the Indian context.

Acknowledging the issue is half the battle won; the other half is in crafting the solution. Let us move from problem recognition to solution implementation.

SOLUTION

To ensure the success of ERAS protocols in Indian orthopedics, a multifaceted approach is vital. Customized protocols should be developed to adapt ERAS principles to the unique healthcare challenges within the Indian context, considering variations in resources and infrastructure. Comprehensive training for healthcare providers is essential, enabling them to effectively implement ERAS in orthopedic surgeries. Patient engagement is a linchpin; patient education programs are necessary to raise awareness and underscore the active role of patients in their recovery. Cultural sensitivity is crucial, acknowledging the impact of cultural norms on dietary habits and recovery practices. Collaboration is key, necessitating the involvement of diverse healthcare professionals, including orthopedic surgeons, anesthesiologists, nurses, and others, to foster a multidisciplinary approach. Robust data collection and monitoring systems are required to evaluate the impact of ERAS protocols and facilitate continuous improvement. Advocacy for supportive healthcare policies and reimbursement structures is essential for creating an enabling environment for ERAS in orthopedic surgery. Patient support systems, especially for disadvantaged individuals, ensure equitable access and adherence to ERAS recommendations. Finally, a commitment to continuous quality improvement is fundamental for refining and updating ERAS protocols based on best practices and emerging evidence.

A critical aspect that should be addressed with ERAS protocols would be to know which of the many elements really have an impact, thus, to understand if any of these elements may be skipped without resulting in inferior results, to further improve clinical outcomes and cost-efficacy of the protocol.[8] Another critical key point to consider is whether further advances and implementations can be made to reduce even more the risk of complications and, as the global trend is to shift to outpatient surgery, whether such orthopedic ERAS protocols can be performed on an ambulatory or semi-ambulatory basis without any increased risk of morbidity or cardiopulmonary and thromboembolic complications, as well as cognitive dysfunctions, especially in geriatric patients that have specific needs for rehabilitation.[8]

THE FUTURE

Simplifying pathways by identifying the most critical elements is desired, but definitive selection remains challenging. Areas with uncertain optimal management include perioperative anemia, postoperative fatigue, delirium, and cognitive dysfunction. Future research aims to establish procedure- and patient-specific pain management strategies for early functional recovery with minimal side effects.

Implementing ERAS successfully requires collaboration from the entire multidisciplinary team and regular auditing to ensure protocol-prescribed care is delivered. ERAS is expected to expand further as more centers worldwide consider its implementation. In the hands of innovation and determination, the future becomes a canvas of endless possibilities. Overcoming clinical and managerial barriers in orthopedic surgery requires a collaborative effort from healthcare professionals, administrators, and policymakers. We need to embody a propitious strategy for augmenting the quality of care and patient outcomes among the elderly hip fracture cohort, concurrently addressing the multifarious conundrums intrinsic to this clinical domain in order to enhance patient care and contribute to better outcomes in the field of geriatric orthopedic surgery.

Arjun Ganesh*, M. Mohamed Sameer

Department of Orthopaedics, Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai, Tamil Nadu, India

***Correspondence to**
Dr. Arjun Ganesh,
E-mail: drarjunganeshjournal@gmail.com

REFERENCES

1. Basu N, Natour M, Mounasamy V, Kates SL. Geriatric hip fracture management: keys to providing a successful program. Eur J Trauma Emerg Surg. 2016;42(5):565-9.
2. Kaye AD, Urman RD, Cornett EM, Hart BM, Chami A, Gayle JA, et al. Enhanced recovery pathways in orthopedic surgery. J Anaesthesiol Clin Pharmacol. 2019;35(1):S35-9.
3. Zhu S, Qian W, Jiang C, Ye C, Chen X. Enhanced recovery after surgery for hip and knee arthroplasty: a systematic review and meta-analysis. Postgrad Med J. 2017;93(1106):736-42.
4. Choi YS, Kim TW, Chang MJ, Kang SB, Chang CB. Enhanced recovery after surgery for major orthopedic surgery: a narrative review. Knee Surg Relat Res. 2022;34(1):8.
5. Liu SY, Li C, Zhang PX. Enhanced recovery after surgery for hip fractures: a systematic review and meta-analysis. Perioper Med (Lond). 2021;10(1):31.
6. Kang Y, Liu J, Chen H, Ding W, Chen J, Zhao B, et al. Enhanced recovery after surgery (ERAS) in elective intertrochanteric fracture patients result in reduced length of hospital stay (LOS) without compromising functional outcome. J Orthop Surg Res. 2019;14(1):209.
7. Frassanito L, Vergari A, Nestorini R, Cerulli G, Placella G, Pace V, et al. Enhanced recovery after surgery (ERAS) in hip and knee replacement surgery: description of a multidisciplinary program to improve management of the patients undergoing major orthopedic surgery. Musculoskelet Surg. 2020;104(1):87-92.

8. Salamanna F, Contartese D, Brogini S, Visani A, Martikos K, Griffoni C, et al. Key Components, Current Practice and Clinical Outcomes of ERAS Programs in Patients Undergoing Orthopedic Surgery: A Systematic Review. J Clin Med. 2022;11(14):4222.

Cite this article as: Ganesh A, Sameer MM. Hip fractures redefined - ERAS protocol's impact: the Indian scenario. Int J Res Orthop 2024;10:1437-40.