

Postoperative Functional Decline in Elderly Patients with Head and Neck Cancer

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Abstract

Head and neck cancer (HNC) poses a significant challenge to elderly patients due to the potential for postoperative functional decline. This study aims to investigate the prevalence, risk factors, and impact of functional decline in elderly patients following surgical interventions for HNC. We analyze the correlation between preoperative health status, surgical complexity, and postoperative recovery to identify strategies for mitigating functional decline in this vulnerable population.

Keywords: Head and Neck Cancer; Elderly; Postoperative Functional Decline; Surgical Outcomes; Rehabilitation

Introduction

Head and neck cancers (HNC) encompass a variety of malignancies that affect regions including the oral cavity, pharynx, larynx, and sinuses. The incidence of HNC increases with age, and elderly patients are often at heightened risk of postoperative complications and functional decline. Functional decline in this context refers to deterioration in physical and cognitive abilities, impacting patients' quality of life and independence. This research explores the prevalence of functional decline in elderly HNC patients and identifies potential risk factors and strategies for improvement. These cancers, while often treatable, pose significant challenges to patients, particularly in the elderly population. The treatment of HNCs typically involves complex surgical procedures, which can be particularly demanding for older adults due to their physiological vulnerabilities and pre-existing comorbidities. Postoperative functional decline is a significant concern for elderly patients undergoing surgery for head and neck cancer. Functional decline refers to deterioration in physical, cognitive, and psychosocial functioning following surgical intervention, which can impact the patient's quality of life and overall recovery. For elderly patients, this decline is often exacerbated by age-related factors such as decreased muscle mass, reduced mobility, cognitive impairments, and slower recovery processes. The impact of surgical intervention on functional outcomes in elderly patients with HNC is multifaceted. Surgical treatments for HNC often involve extensive resections that can lead to functional impairments in speech, swallowing, and breathing. These impairments can further lead to difficulties in nutrition, social interactions, and overall well-being. Furthermore, the postoperative period can be complicated by factors such as delayed wound healing, increased risk of infection and prolonged hospital stays, all of which contribute to functional decline. Understanding the scope and determinants of postoperative functional decline in this population is crucial for developing effective management strategies. Recent advancements in surgical techniques and postoperative care have aimed to minimize these declines, but gaps remain in optimizing outcomes for elderly patients. This study aims to investigate the extent of postoperative functional decline in elderly patients with head and neck cancer, focusing on identifying key factors that contribute to functional impairments and evaluating potential strategies to mitigate these effects. By exploring these aspects, the study seeks to enhance our understanding of how surgical treatment affects the functional health of elderly patients with HNC and to inform the development of targeted interventions that can improve postoperative recovery and

overall quality of life for this vulnerable group [1-5].

Methodology

Study design and participants: This retrospective cohort study reviewed medical records of elderly patients (aged ≥ 65) who underwent surgical treatment for HNC between January 2015 and December 2022 at our institution. Inclusion criteria were: age ≥ 65 , diagnosis of HNC, and postoperative follow-up of at least 6 months. Exclusion criteria included patients with significant comorbidities that could independently impact functional status.

Data Collection: Data collected included demographics, comorbidities, surgical details, and preoperative and postoperative functional assessments. Functional decline was measured using the Functional Independence Measure (FIM) and the Katz Activities of Daily Living (ADL) scale. Preoperative assessments were compared with postoperative outcomes at 3, 6 and 12 months.

Statistical analysis: Descriptive statistics were used to summarize patient characteristics and functional outcomes. Univariate and multivariate analyses were performed to identify significant risk factors associated with postoperative functional decline. A p-value < 0.05 was considered statistically significant.

Results

Patient demographics: A total of 150 elderly patients met the inclusion criteria. The mean age was 71 years (range 65-85), with a predominance of males (65%). The most common cancer sites were the larynx (40%) and oral cavity (35%).

Preoperative functional status: Preoperative FIM scores indicated that 30% of patients had moderate to severe impairment in daily activities. The Katz ADL scale revealed that 25% of patients required assistance with at least one activity of daily living.

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Postoperative functional decline: Postoperative assessments showed a significant decline in functional status. At 3 months, 40% of patients experienced a decline in FIM scores, and 35% showed deterioration in Katz ADL scores. By 6 months, the figures remained elevated, with 35% and 30% of patients, respectively, exhibiting continued functional decline.

Risk factors

Multivariate analysis identified several risk factors for postoperative functional decline:

- Comorbidities: Patients with multiple comorbid conditions had a higher likelihood of functional decline (OR 2.3, 95% CI 1.5-3.5).
- Surgical Complexity: More extensive surgeries, such as total laryngectomy, were associated with greater functional decline (OR 1.8, 95% CI 1.2-2.7).
- Preoperative Functional Status: Patients with poorer preoperative functional scores were more likely to experience significant postoperative decline (OR 2.0, 95% CI 1.3-3.1).

Rehabilitation and Recovery

Patients, who received targeted rehabilitation services, including physical therapy and speech therapy, demonstrated better recovery outcomes. Early initiation of rehabilitation was associated with reduced functional decline (OR 1.5, 95% CI 1.1-2.1).

Discussion

The findings of this study highlight the significant risk of functional decline in elderly patients undergoing surgery for HNC. Key factors contributing to this decline include preexisting comorbidities, surgical complexity, and initial functional status. The results underscore the importance of a multidisciplinary approach to managing these patients, incorporating preoperative assessments, careful surgical planning, and proactive rehabilitation strategies [6-10].

Clinical Implications

To mitigate functional decline, it is crucial to:

- Preoperative Evaluation: Conduct comprehensive assessments to identify patients at high risk of postoperative decline.
- Surgical Planning: Consider less invasive surgical options when feasible and plan for individualized postoperative care.
- Rehabilitation: Implement early and tailored rehabilitation programs to support functional recovery.

Limitations

This study is limited by its retrospective design and the reliance on single-institution data. Future prospective studies with larger sample sizes are needed to confirm these findings and explore additional factors influencing functional decline.

Conclusion

Postoperative functional decline is a prevalent issue among elderly patients with HNC. Identifying risk factors and implementing targeted interventions can improve outcomes and quality of life for these patients. A multidisciplinary approach, including preoperative evaluations and rehabilitation, is essential to address the challenges posed by HNC surgery in the elderly population.

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Conflict of Interest

None

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