

Nutritional and Immunological Status in Head and Neck Cancer Prognosis

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Introduction

The pretreatment nutritional and immunological status of HNC patients are reliable prognostic indicators of tumor outcomes and survival. This study retrospectively reviews these factors in our HNC patients.

Methods

A retrospective review was conducted on 60 head and neck cancer (HNC) patients in 2024. The cases include 21 hypopharyngeal cancers (35%), 9 laryngeal cancers (15%), 6 each of tongue and tonsillar cancers (10% each), 5 each of tongue base and soft palate cancers (8.33% each), 2 each of buccal mucosa, mouth floor, and retromolar trigone cancers (3.33% each), and 1 each of low lip and hard palate cancers (1.67% each) (Figure 1). All patients received surgical resection and/or adjuvant radiotherapy or concurrent chemoradiotherapy based on pathological results. We measured body weight (BW), body mass index (BMI), albumin, and hemoglobin (Hb) at pretreatment, and at 3 and 6 months post-treatment. We also evaluated C-reactive protein (CRP), platelet count, neutrophil-to-lymphocyte ratio (NLR), and platelet-to-lymphocyte ratio (PLR) to assess immunological status. We analyzed how these indicators impact the prognosis of head and neck cancer (HNC) patients.

Results

Among the patients, 6 (10%) experienced wound infection, 2 (3.33%) developed pharyngocutaneous fistula, 2 (3.33%) had flap necrosis, and 6 (10%) resulted in mortality (Figure 2). In the wound infection group, the average BMI is 20.4, the average Hb is 12.9 g/dL, the average albumin is 3.5 g/dL, the average NLR is 6.78, and the PLR is 243.5. In the PC fistula and flap necrosis group, the average BMI is 21.65, the average Hb level is 11.7 g/dL, the average albumin level is 3.15 g/dL, the average NLR is 13.28, and the PLR is 418.84. In the mortality group, the average BMI is 22.3, the average Hb level is 13.58 g/dL, the average albumin level is 3.77 g/dL, the average NLR is 6.06, and the PLR is 275.5 (Figure 3).

Conclusions

HNC is a significant global health issue. Our study found that the average BMI was below 22, Hb. under 12.0 g/dL, albumin below 3.3 g/dL, NLR below 3, and PLR above 170. HNC patients will have a high rate of surgical complications and mortality.

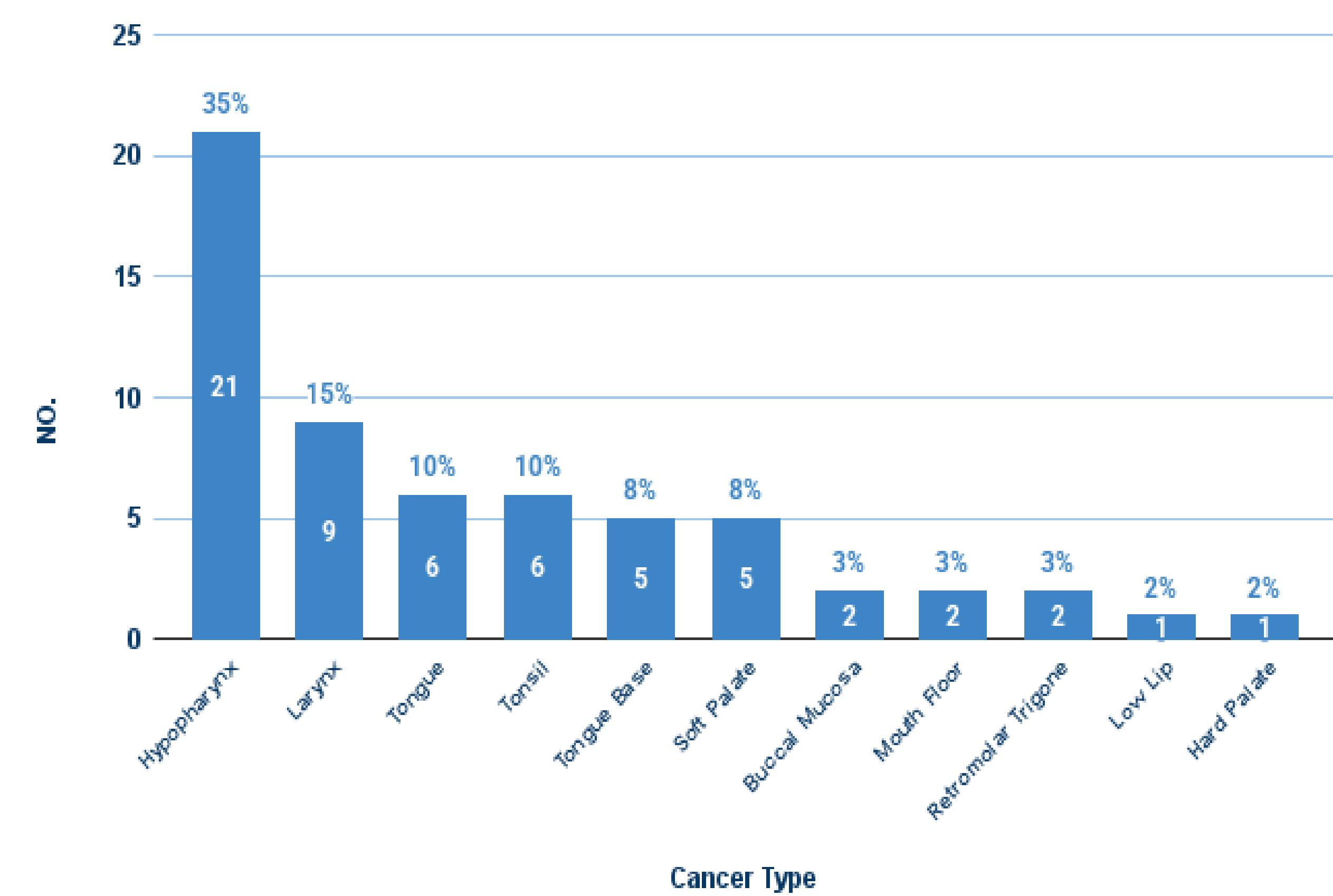


Figure 1: Biography of head and neck cancer patients

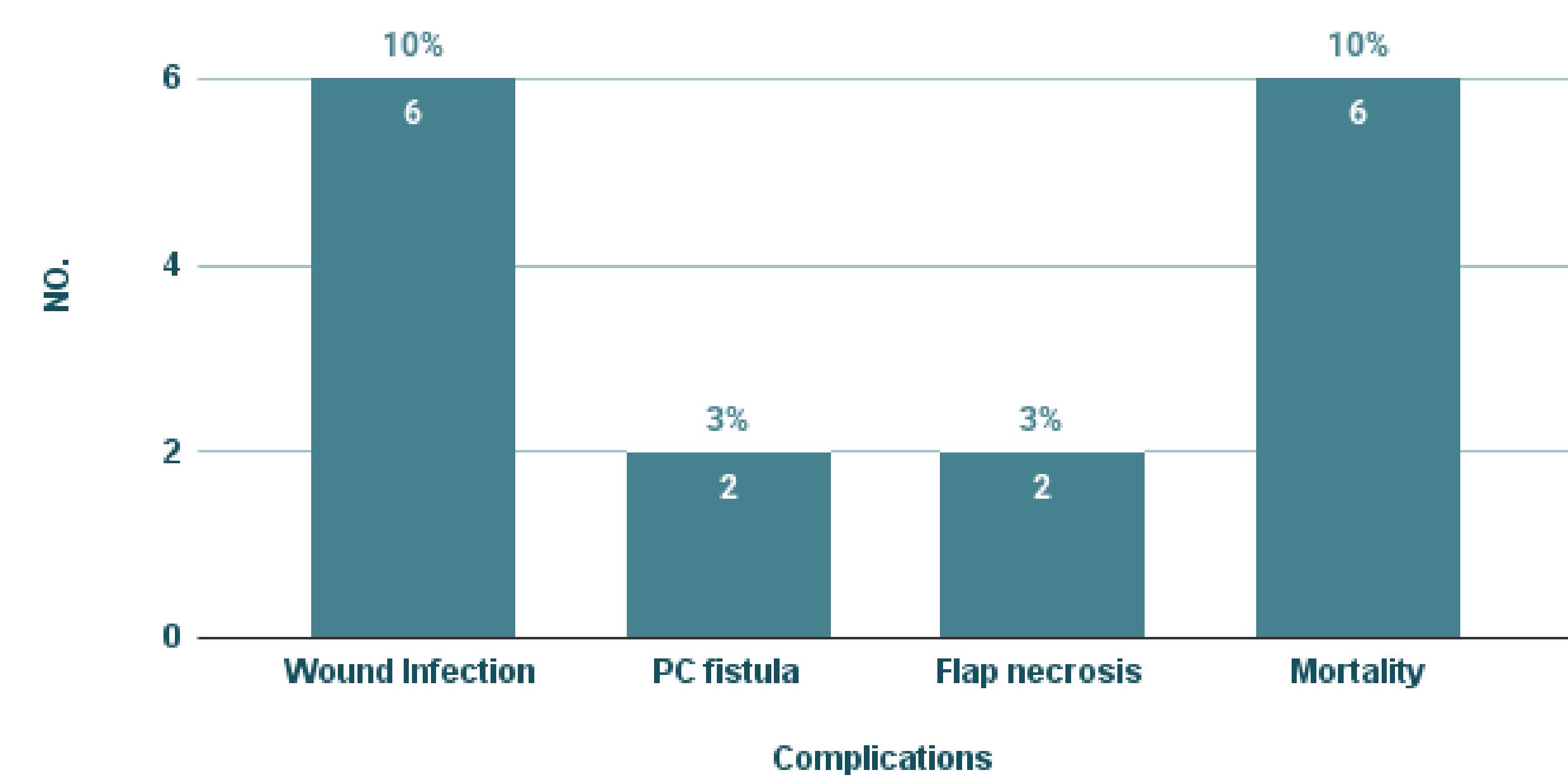


Figure 2: Complications of head and neck patients treatment

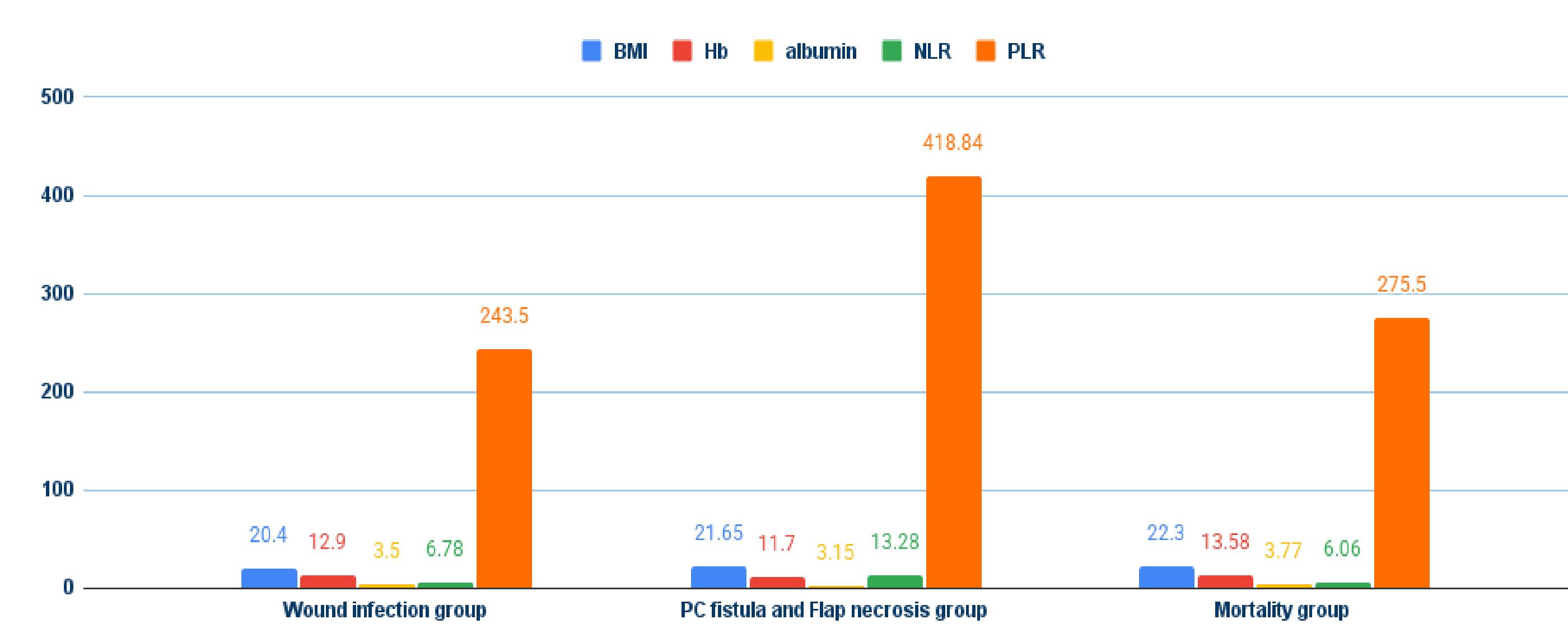


Figure 3: Nutritional and Immunological status of head and neck cancer patients

Key words: Nutritional, Immunological, Head and neck cancer

