CLINICAL OUTCOMES AFTER DENTAL EXTRACTION IN PATIENTS UNDERGOING CHEMOTHERAPY FOR HEMATOLOGICAL MALIGNANCIES: A RETROSPECTIVE COHORT STUDY

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Introduction

- Tooth extraction is one of the most common procedures performed in the dental office.
- After tooth extraction, the alveolar bone and surrounding soft tissue undergoes series of changes to fully restore the alveolar socket wound and leads to socket healing.
- Dental extraction in patients with haematological malignancies is associated with higher risk for complications due to chemotherapy-induced immunosuppression, thrombocytopenia, and mucosal toxicity.
- Limited Limited data exist on the clinical outcomes and risk factors associated with post-extraction healing in this group of patients.

Aim

To evaluate the incidence and risk factors for postoperative complications following dental extractions in patients undergoing chemotherapy for hematological malignancies.

Methods

- Across 7 academic centers in Egypt, we conducted a retrospective analysis of patients with hematological malignancies (Leukemia, Lymphoma and Multiple Myeloma) presenting for dental extractions between 2018 and 2024.
- The primary objectives were to evaluate delayed socket healing (defined as more than 21 days), post-extraction significant bleeding, and local infection.
- Clinical outcomes included 30-day postoperative complication rate, incidence of infection, and 1-year overall survival (OS).
- Secondary objectives included evaluating the need for surgical intervention or hospitalization.

Results

- A total of 110 patients who had 207 extractions were included in this study.
- Patient characteristics were median age of 62.4 years, with a male predominance (61%), were largely white (88%), and generally had good performance status (57% ECOG 0).
- Delayed socket healing was observed in 14.2 %, infection in 7.1%, and significant bleeding in 2.1% of the patients.
- Pre-extraction neutropenia (ANC < 1.5 x 109/L, P<0.05), thrombocytopenia (Platelets < 50x109/L, P=0.02), anemia (Hgb <7 gm/dL, P=0.04) and extractions performed within 10 days of high-dose chemotherapy (P=0.04) were associated with post extraction complications.

Patients	Values
Number of patients	110
Total Extractions	207
Median age	62.4
Delayed Socket Healing	14.2%
Infection	7.1%
Significant Bleeding	2.1 %

Table 1: clinical characteristics and outcomes

Summary

Dental extraction can be performed safely in patients undergoing chemotherapy for hematological malignancies, however extractions that are performed during periods of cytopenia or close to chemotherapy cycles are associated with higher risk for post- extraction complications. Delayed socket healing is the most common adverse event. Larger cohorts are warranted to validate these data.

References

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