Six-Fold Reduction in Infectious Dental Emergencies During Induction Chemotherapy in Patients with Newly-Diagnosed Acute Myeloid Leukemia When Screened for Acute Odontogenic Infection Prior to Treatment

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Introduction:

- Guidelines suggest that odontogenic infections be eliminated prior to initiation of chemotherapy^{1,2,3,4}.
- Patients with newly-diagnosed acute myeloid leukemia (AML) are at particular risk of infection during induction chemotherapy (IC) which results in profound neutropenia and thrombocytopenia^{5,6,7}.
- We initiated a prospective screening program intended to diagnose and treat acute odontogenic infections in patients with AML prior to IC, with the goal of reducing the rate of infectious dental emergencies (IDE) during IC.

Results:

	Historic Group	Screened Group	Control Group
Male	154 (50.66%)	80 (53.38%)	90 (47.62%)
Female	150 (49.34%)	69 (46.61%)	98 (51.85%)
Ave. Age	55.83	57.85	55.18

- 337 patients with AML were admitted for IC from 11/1/2014 to 12/31/2016.
- A statistically significant difference existed in the rate of IDE between the two groups ($p=0.042$, $\alpha=0.05$).
- The historic rate was calculated at 4.28%.

Methods:

- Screening examinations are recorded in a dental database which was reviewed to identify cases fulfilling the following inclusion criteria: 1) Diagnosis of “AML or other related neoplasms” and 2) Admission for IC to authors institution between Nov 1, 2014 and Dec 31, 2016 ($n=338$).
- Screenings were performed in 149 patients. Patients not screened ($n=188$) acted as controls. Dental charts were reviewed to determine if the patient presented for a dental emergency while admitted for IC.
- The historic rate of IDE was calculated as above, for all patients admitted for IC during the 26 months prior to initiation of the screening program.

Conclusion:

- Screening for acute odontogenic disease prior to IC in patients with AML resulted in a 6-fold reduction in infectious dental emergencies during the induction period.

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