

O1043 Outcomes of influenza infection in vaccinated and non-vaccinated patients with cancer

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Background: Patients with cancer are at higher risk for influenza related complications. Influenza immunization is recommended for this patient population, but currently under-utilized. We sought to evaluate the impact of influenza vaccination on outcomes of patients with cancer and influenza infections.

Methods: We retrospectively reviewed 365 patients with cancer and diagnosed with influenza infection during the 2017-2018 influenza season. We evaluated the patients' characteristics, rates of immunization and various clinical outcomes.

Results: The most common type of influenza virus diagnosed in our population was AH3/N2 (72%). One hundred and one patients (28%) had hematological malignancies, 143 (39%) had solid tumors, and 121 (33%) were recipients of hematopoietic stem cell transplants (HCT). Only 33% of all patients with influenza were vaccinated during that season, with the highest vaccination rate in HCT recipients (51%) and the lowest in patients with solid tumors (16%). The majority of patients (273, 75%) presented with upper respiratory tract infections (URI), 68 (27%) with lower-tract respiratory infections (LRTIs), and 24 (7%) progressed from URI to LRTI. Most patients received antiviral therapy (92%). Interestingly, patients who received influenza vaccination during the 2017-2018 season had lower use of supplemental oxygen, shorter length of hospital stay, and a lower 90-day mortality rate than did the unvaccinated patients (Table). Overall mortality rate was 5% and 8% at 30 and 90 days, respectively. Factors associated with mortality included older age, shorter time from transplantation to infection, higher rate of LRTI, and more requirement of supplemental oxygen at diagnosis (all, $p < 0.01$).

Conclusions: Influenza infection is associated with significant morbidity in patients with cancer, with up to one-third of patients experiencing LRTI. Influenza vaccination was associated with better clinical outcomes. Strategies to improve vaccine uptake are needed.

Table. Clinical Outcomes			
Variable	Vaccinated n=108	**Unvaccinated n=257	p value
Supplemental oxygen use (%)	15 (14)	61 (23)	0.034
Hospital admission (%)	49 (45)	107 (41)	0.447
Median length of hospital stay, days (range)	5 (3-10)	6 (4-12)	0.003
ICU admission (%)	7 (6)	26 (10)	0.321
Adjusted 30-day mortality rate (%)	3 (3)	17 (7)	0.206
Adjusted 90-day mortality rate (%)	3 (3)	23 (9)	0.004

