ADVERSE DRUG REACTIONS, INCLUDING SJS, TEN

IMPLICATIONS OF CO-OCCURRING DERMATOLOGIC AND GASTROINTESTINAL TOXICITY FROM IMMUNE CHECKPOINT INHIBITION THERAPY

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Background: The use of immune checkpoint inhibitors (ICIs) for the treatment of cancer has introduced multisystem toxicities known as immune-related adverse events (irAEs). Gastrointestinal (GI) and dermatologic irAEs are among the earliest and most common. There remains a poor understanding of co-occurring ICI-induced rash and colitis and their implications.

Objective: To characterize the manifestation and impact of co-occurring ICI-induced rash and colitis.

Materials and Methods: Patients treated with ICIs at Massachusetts General Hospital (MGH) between January 2011 and January 2018 who had confirmed or highly probable GI irAE based on endoscopic and pathologic findings were identified. Medical records were reviewed for demographic and clinical data. Patients with both dermatologic and GI irAE (cases) were compared to patients with only GI irAE (controls). Statistical methods included chi-squared and t-test for comparison of baseline characteristics, logistic regression for categorical outcomes, and log-rank and cox-proportional-hazards modeling for survival data.

Results: Of the 67 patients with ICI-induced colitis, 28 (41.8%) also developed skin toxicity (cases). Baseline characteristics (age, malignancy, ICI type and number of doses) between cases and controls were similar. Median time from ICI initiation to development of colitis and rash was 70 days (15-760 days) and 32.5 days (2-260), respectively. Cases were more likely to develop an irAE of another organ system, compared to controls (odds ratio, 8.3; p=0.001). In univariate analysis, median progression-free survival (PFS) among cases was longer than controls (16.1 vs 3.3 months, p<0.005). In multivariate analysis, adjusting for

age, malignancy, and ICI type, cases demonstrated prolonged PFS, compared to controls (hazard ratio, 0.43; p=0.01).

Conclusions: The co-occurrence of dermatologic and GI irAEs – which present early after ICI initiation and may indicate increased risk of developing other irAEs – may be associated with improved treatment response. Dermatologists, gastroenterologists, and oncologists should collaborate to monitor and manage these increasingly prevalent patients.