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652.MGUS, AMYLOIDOSIS, AND OTHER NON-MYELOMA PLASMA CELL DYSCRASIAS: CLINICAL AND EPIDEMIOLOGICAL

Increased Incidence of Non-Hematologic Malignancy in Patients with Monoclonal Gammopathy of Undetermined Significance

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Abstract title:
Increased incidence of non-hematologic malignancy in patients with monoclonal gammopathy of undetermined significance.

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Background
Monoclonal gammopathy of undetermined significance (MGUS) is known to be a premalignant clonal plasma cell disorder associated with an increased risk of multiple myeloma or lymphoplasmacytic disorders. Previously, MGUS has also been associated with other non-malignant conditions, such as connective tissue disorders. Because of the impact of MGUS on immune function, we evaluated the incidence of non-hematologic malignancy in patients with MGUS in Texas Oncology (TxO).

Methods
We conducted a retrospective cohort study of adult individuals with MGUS at TxO sites between January 2016- June 2024. Patients were indexed on the date of first MGUS diagnosis using a combination of iKnowMed (IKM- EHR) and TxO proprietary Precision Medicine Deltalake and compared MGUS rates from TxO sites to nationally published rates using unadjusted, univariate analysis. Associated non-hematologic malignancies and their diagnosis dates were also identified from above sources and the frequency compared to national Surveillance, Epidemiology, and End Results (SEER) data. Stratified analysis was used to determine MGUS frequency rates of MGUS and non-hematologic malignancies.

Results
A total of 33796 patients with MGUS were reviewed and assessed for the frequency of solid tumor malignancies and compared to population reference. Breast cancer incidence was 3.3% (n=1104) in MGUS population compared to 1.29% in the population reference. In prostate cancer, a similar increase in MGUS patients were seen with 2.3% (n=773) compared to 1.17% in comparison to the population. The population rates of lung cancer are 0.49% compared to MGUS population of which is 1.3% (n=430). Incidence of colon, kidney, skin, and bladder also increased compared to the population reference. In addition, 8.5% (n=2859) of these patients had multiple myeloma diagnoses which supports the fact that MGUS patients are at an increased risk of multiple myeloma.

Conclusion

Our retrospective cohort study of individuals with MGUS at TxO showed an increase in the frequency of malignancy of solid tumors. The prevalence of non-hematologic malignancies was higher compared to that of the population rate. Patients with MGUS had 3 times the incidence of breast cancer compared to SEER data. Similarly, MGUS patients had an increased risk of prostate, lung, colon, skin, kidney, and bladder cancers when compared to the national rate. This association raises the concern that patients with MGUS should be aware of a significant increase in the frequency of non-hematologic malignancies. Clinicians will need to be vigilant in cancer screenings in patients with MGUS and consider incorporating germline genetic testing as part of standard-of-care quality initiatives. Due to their increased risk of non-hematologic malignancies, further studies are warranted to determine if changes are needed in how MGUS patients are screened for cancer.

Disclosures Lisi: *Texas Oncology LLC:* Current Employment. **Brisbin:** *Texas Oncology:* Current Employment; *Precision Health Informatics, Inc.:* Current equity holder in private company. **Paulson:** *Texas Oncology PA:* Current Employment; *GTHX:* Current equity holder in publicly-traded company; *BMY:* Current equity holder in publicly-traded company; *APTO:* Current equity holder in publicly-traded company; *AMGN:* Current equity holder in publicly-traded company; *ADCT:* Current equity holder in publicly-traded company; *ATNM:* Current equity holder in publicly-traded company; *Ideology:* Speakers Bureau.

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