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634.MYELOPROLIFERATIVE SYNDROMES: CLINICAL AND EPIDEMIOLOGICAL

Epidemiological Profile of Polycythemia Vera Patients Diagnosed during 2016-2020: An Ethnic Variation in Armenia

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Background: Polycythemia Vera (PV), a rare myeloproliferative neoplasm, exhibits variations in disease characteristics across diverse ethnic populations. Epidemiological data on PV patients in low-middle-income countries, such as Armenia, is scarce. This study represents the first comprehensive retrospective analysis of PV patients diagnosed between 2016 and 2020 in Armenia. It aims to provide valuable insights into disease characteristics, including median survival, gender distribution, hemoglobin levels, JAK2V617F mutation status, and treatment patterns. Additionally, it explores gender disparities in PV patients in Armenia which is essential to tailor appropriate therapeutic strategies. While previous studies have reported a consistent male-to-female ratio of 2:1 across all ethnicities, this research highlights a contrasting male-to-female ratio in Armenia.

Methods: This study included all patients with a diagnosis of PV in the Republic of Armenia from 2016 to 2020, which were registered through the registry of the Hematology Center after Prof. Yeolyan, which stands as the sole hematology center in Armenia. Medical records were reviewed retrospectively and analyzed. Gender distribution was meticulously examined in the context of ethnicity, allowing for a nuanced understanding of the male-to-female ratio variation. Furthermore, the study explored additional epidemiological data, including median survival, hemoglobin levels, JAK2V617F mutation status, and treatment patterns.

Results: This analysis provides the first in-depth epidemiological insights into PV patients in Armenia. Surprisingly, our findings indicate that in Armenia, the male-to-female ratio deviates from the established norm, manifesting as a male-to-female ratio of 1.0/0.8 (55.1% males, 44.9% females). This ethnic variation in gender distribution prompts further investigation into the underlying genetic and environmental factors that may contribute to the occurrence of PV within the Armenian population. Additionally, the study revealed a mean survival of 79.457 months (95% CI: 76.718 - 82.196). The median hemoglobin level was 198 g/l. JAK2V617F mutation analysis was conducted in a portion of the cases, with 81.4% of patients not undergoing testing. Among the cases where JAK2V617F mutation analysis was performed, 81.8% tested positive for the mutation, while 18.2% yielded negative results. The majority (88.1%) of PV patients received Hydroxyurea as a therapeutic intervention. However, limitations such as the absence of JAK2V617F mutation analysis in a substantial portion (81.4%) of cases highlight the challenges faced in resource-limited settings like Armenia. The high cost of Ruxolitinib poses further barriers to access for the patient population.

Conclusion: This pioneering epidemiologic study in Armenia offers valuable insights into PV's characteristics within this unique ethnic context. The observed difference in the male-to-female ratio in PV patients in Armenia merits further investigation. Unraveling the factors contributing to this ethnic variation could provide crucial insights into the pathogenesis of PV and may aid in optimizing diagnostic and therapeutic approaches for this rare hematologic disorder in Armenia.

Limitations: This nationwide study exploring PV in Armenia encountered limitations due to unavailable data for 26 cases, including 5 deceased patients. The retrospective design, and limited genetic testing data may impact the study's generalizability and disease characterization. Longitudinal follow-up and potential unmeasured confounding factors further warrant consideration.

Disclosures Kazandjian: *Plexus Communications:* Ended employment in the past 24 months, Honoraria; *MMRF:* Ended employment in the past 24 months, Honoraria; *MJH Life Sciences:* Current Employment, Honoraria; *Karyopharm Therapeutics:* Current Employment, Speakers Bureau; *Curio Science:* Ended employment in the past 24 months, Honoraria; *Bristol Myer Squibb:* Consultancy, Honoraria; *Bridger Consulting Group:* Consultancy, Honoraria; *Arcellx:* Consultancy, Current Employment, Honoraria; *Aptitude Health:* Consultancy, Honoraria; *Aperture Medical Technology, LLC:* Consultancy, Honoraria; *Alphasights:* Consultancy, Honoraria; *Sanofi:* Consultancy, Honoraria.

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