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MELANOMA IN PALESTINE: FIRST REAL-WORLD OUTCOMES FROM A NATIONAL RETROSPECTIVE COHORT

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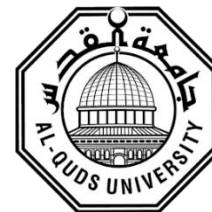
Abstract:

Background: Melanoma in Palestine presents a significant public health challenge, with cancer being the third leading cause of mortality in the region as of 2020. The healthcare context is characterized by fragmented studies on cancer prevalence, a lack of a national registry, and constrained healthcare access due to regional instability, movement restrictions, limited molecular diagnostics, and resource limitations, particularly in Gaza. These factors contribute to delayed diagnosis and treatment access. The Palestinian Ministry of Health reported only 59 cases between 2017-2021, while GLOBOCAN (2022) estimated 24 cases per year in Palestine. Augusta Victoria Hospital (AVH) serves as the primary national tertiary referral center for melanoma cases across the West Bank and Gaza.

Objectives: The primary objective of this study was to analyze and highlight the disease characteristics and real-world outcomes of cutaneous melanoma patients in Palestine, a region with significant resource constraints.

Methods: This study employed a retrospective cohort design, focusing on adult patients (age > 18 years at diagnosis) with biopsy-proven cutaneous melanoma who received care at AVH between 2015 and 2025. Patients required a minimum of three months of follow-up. Exclusions included those with only a second opinion visit, incomplete treatment history, clinical trial participation, or concomitant malignancy. Cases were identified through database searches at AVH. Statistical analysis involved R version 4.5.0, utilizing descriptive statistics, Kaplan-Meier curves, log-rank tests, and univariate and multivariate Cox regression, with a significance level of $p = 0.05$.

Results: The cohort consisted of 64 patients, with a female-to-male ratio of 1:1.06 and a mean age of 54.5 ± 15.7 years; all were of Palestinian Arab origin. A key finding was that 60.9% of patients presented



with metastatic disease (Stage IV) at diagnosis. The most common primary sites were the lower limb (26.6%) and head and neck (20.3%). Symptoms at presentation frequently included new skin lesions (57.8%), lymphadenopathy (9.4%), and changes in existing lesions (9.4%). BRAF testing was performed on 87.5% of patients, with 29.7% being BRAF mutation positive. Among these, V600E was the most common mutation (68.4%). The median follow-up was 76.4 months, with a median Progression-Free Survival (PFS) of 5.3 months and a median Overall Survival (OS) of 22.6 months. Multivariable Cox regression analysis showed that ECOG status (2-4 vs 0-1), brain metastases, serum LDH (>280 vs ≤ 280), and serum NLR (≥ 3 vs <3) were significant predictors for both OS and PFS.

Conclusion: This study contributes valuable real-world evidence on melanoma outcomes from a resource-constrained region in the Middle East. The findings highlight the critical need for population-level awareness campaigns for early melanoma detection, streamlined cross-border referrals to reduce diagnostic and treatment delays, and the establishment of a national cancer registry to facilitate guideline-concordant care. Additionally, policy advocacy is essential to improve healthcare access in conflict-affected populations.

Key Words: Cutaneous Melanoma, Palestine; BRAF Mutation, Survival Analysis.