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The Cardiovascular Risk Factors Associate with the Melanoma Malignance

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INTRODUCTION

Melanoma, a skin cancer that arises from pigment cells, has been intensively studied, especially with respect to immune responses to tumours, and has served as a model for the development of immunotherapies. This is due to the high mutational burden observed in melanoma, which increases both immunogenicity and immune cell infiltration into the tumour compared to other cancers. The immune response to melanoma involves complex components and interactions. As tumours develop, an increasing number of genetic and epigenetic alterations accumulate, some of which contribute to tumours cell immunogenicity and immune cell infiltration. However, tumours evolution also enables the development of resistance mechanisms, which in turn lead to tumours immune evasion. Understanding the interactions between melanoma tumours cells and the immune system, and the evolving changes within melanoma tumours cells, the immune system, and the microenvironment, is essential for the development of new cancer therapies. However, current research suggests that other extrinsic factors, such as the microbiome, may be involved in the immune response against melanoma. Thorough knowledge of the classification and staging of melanoma is paramount to evaluate prognosis, determine the appropriate surgical intervention, and assess eligibility for adjuvant therapy and clinic trials.

DESCRIPTION

In the past decade, systemic therapies such as immune checkpoint inhibitors and BRAF-MEK inhibitors have improved prognosis in high-risk advanced melanoma. Melanoma survival is becoming increasingly important as survival rates improve, especially in patients with a favourable prognosis and those diagnosed at an early age. It is increasingly recognized that cancer and its treatments are associated with increased cardiovascular morbidity and mortality. Indeed, data from melanoma observational studies and a meta-analysis of randomized controlled trials indicate that systemic therapy may be associated with cardiotoxicity such as myocardial infarction, heart failure, myocarditis and stroke. Our review describes cardiovascular disease and risk factors associated with melanoma and outlines the importance of cardiovascular risk modification in this population.

Both genetic factors and exposure to ultraviolet (UV) radiation are involved in the development of melanoma. Malignant melanoma is more prone to metastasis if diagnosed late, but malignant melanoma diagnosed and treated early has a low risk of death. Identifying patients with melanoma is of critical importance. However, the accuracy of classical clinical and histologic variables such as Breslow thickness, ulcer presence, and lymph node status may not be sufficient to identify such individuals. Therefore, there is a need to improve initial attempts to stratify melanoma patients and develop additional prognostic melanoma his biomarkers that can reliably identify high-risk subgroups with the aim of providing effective personalized therapy [1-4].

CONCLUSION

Primary excision with adequate margins remains the standard of care for localized cutaneous melanoma. Sentinel lymph node biopsy has proven to be an effective tool because of its prognostic value and informative guidance for adjuvant treatment and monitoring. Complete lymphadenectomy is not routinely performed after a positive sentinel lymph node biopsy because there is no benefit in terms of melanoma-specific survival and distant metastasis-free survival. Neoadjuvant systemic therapeutic approaches for advanced locoregional disease show promise in phase I, II, and phase III clinical trials. Surgical treatment of cutaneous melanoma continues to evolve, with a more moderate degree of resection of primary melanoma and treatment of lymph node disease.

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CONFLICTS OF INTERESTS

The authors declare that they have no conflict of interest.

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