The Immunohistochemistry Signature of Mismatch Repair (MMR) Proteins in a Multiethnic Asian Cohort With Endometrial Carcinoma.

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Abstract

Endometrial cancer is the most common gynecologic cancer in developed countries and is rising in incidence globally. Although the 5-year survival rates are >80%, factors beyond conventional pathologic features that predict clinical outcomes are still being elucidated. The aims of this study were to define the prevalence and associations of deficient mismatch repair (dMMR) protein expression (MLH1, MSH2, MSH6, PMS2) by immunohistochemistry in a multiethnic Southeast Asian cohort with endometrioid endometrial cancer. A total of 77 patients with adequate formalin-fixed paraffin-embedded specimens were identified. The sections were stained in 2 centers for 4 MMR proteins and examined by 2 independent specialist histopathologists. The mean age for the cohort was 58.6 yr, with 19.4% (15/77) of patients’ cancers showing loss of 2 MMR proteins. All 13 cancers with absent MLH1 showed PMS2 loss (13/15), whereas absent MSH2 correlated with MSH6 loss (2/15). There were no significant differences for dMMR cases in age, body mass index, histopathologic characteristics, and clinical outcomes. In dMMR cases, an overrepresentation of patients of Indian ethnic origin was observed compared with Chinese and Malays. These findings suggest that dMMR protein expression in a Southeast Asian endometrial cancer cohort does not correlate with disease outcomes.

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