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MICROSATELLITE INSTABILITY IN COLORECTAL CARCINOMA: DOES SEX MATTER?

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The aim of this study was to evaluate sex differences in microsatellite instability frequency and clinicopathological features of colorectal carcinoma (CRC). 177 patients (88 females and 89 males) with CRC who underwent microsatellite instability (MSI) testing were enrolled in this study. The overall incidence of MSI-H status among observed patients with CRC was 14.7%. The frequency of MSI was significantly higher in men (25.35%), comparing with women (10%) ($P=0.0369$). The MSI-H status was associated with the younger age ($P=0.0020$) in men. In addition, vast majority of MSI-H tumors were found in proximal part of large intestine ($P<0.0001$). In most of cases, MSI was due to lack of MLH1 and PMS2 expression (64%). MLH1 deficiency was higher in men rather than women (70.6% vs. 50%). In contrast, women

demonstrated more often lack of MSH2+MSH6 (37.5% vs. 11.8%). Lack of MSH2 and MSH6 expression, as well as isolated block of PMS2 expression, were associated with the highest tumor grade ($P<0.0001$). In addition to grade, we found association of MSI-H status with some histological types of colorectal carcinoma. In particular, medullary and mucinous carcinoma were tightly associated with MSI ($P=0.000767$). Interestingly that most of these histological types were found in men in age up to 50 ($P=0.0269$). Finally, assessment of MSI-H status relation to tumor staging allowed us to find the lower frequency of metastasis in patients with MSI-H status, comparing with patients with microsatellite stable tumors regardless of sex.

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