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Molecular analysis and clinicopathologic features of colorectal cancer from Algerian patients

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Background: In Algeria, colorectal cancer (CRC) is the second most common cancer after lung cancer in men and breast cancer in women. The advances of molecular genetics using molecular markers MSI, BRAF and RAS mutations can predict prognosis and could contribute to decisions on treatment strategies.

Material & Methods: Clinico-pathological features and molecular profile of KRAS exon 2, BRAF exon 15 and MSI from 102 Algerian patients with advanced.

Results: BRAF and KRAS mutations were detected in 4.9% and 31.3% of the patients' tumors respectively. Activating mutation in codon 12 and 13 in KRAS was located in the right colon (40.6% vs. 25%) in the left colon ($p=0.130$) which tended to be more frequent at stage IV (55.8%) than at stage III (44.1%) ($p=0.960$). Approximately 64% with KRAS mutation were well or moderately differentiated vs. 36% ($p=0.130$). The poorly differentiated amino-acid changes are more frequently observed in codon 12 than in codon 13 and G12D is the most frequent mutation. The second is G12A. 18.6% (19/102) of the patients had MSI-H tumors and four of the tumors MSI-H had activating V600 E BRAF mutation.

Conclusion: Most of the clinicopathologic characteristics observed in our study are similar to those reported in other studies and further analyses in larger series are required to confirm these preliminary results. Screening program should be set up to determine the incidence rate of the HNPCC which tend to be more frequent in Algeria than in western countries.

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