**372P - Microsatellite Instability Testing Practices in Colorectal Cancer Patients, in Europe and Asia**

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Authors of this publication do not have any conflict of interest to disclose

**BACKGROUND**

Microsatellite instability (MSI) is caused by mutations in the DNA mismatch repair genes and has been shown to predict response to checkpoint inhibitors (CPIs). Both FDA & EMA have approved CPIs in MSI-High (MSI-H) colorectal cancer (CRC). The aim of this study was to understand MSI testing practices for CRC patients, among physicians in Europe and Asia.

**METHODS**

This study was conducted using Oncology Dynamics™, an online market research physician survey collecting drug-treated, anonymized patient data. Data related to 8,104 CRC patients in Europe (France, Germany, Italy, Spain, & UK) and data related to 4,459 CRC patients in Asia (China, Japan, & S. Korea) were analyzed, in 2021, excluding clinical trial patients. The analyzed data represents all CRC staging. MSI test method was available only for Q3+Q4 2021.

**RESULTS**

- Overall MSI testing rate was higher in Europe (44%) than Asia (35%). In Europe, the highest uptake of MSI test was observed in France and Spain at 57% and 54% testing rates, respectively. In Asia, South Korea reported the highest testing rate (68%). See Figure 1.
- Among tested patients, Europe reported higher proportion (11%) of MSI-H patients compared to Asia (8%). At country level, the MSI-H patients ranged from 7-14% in Europe and 3-7% in Asia. See Figure 2.
- 38% of MSI-H patients in Europe and 24% of MSI-H patients in Asia were treated with CPIs, in first-line setting.
- MSI test method was investigated for 1,560 patients in Europe and 782 patients in Asia, in Q3+Q4 2021. Among these patients, we have information on test method for 1,167 (75%) patients in Europe and 684 (87%) patients in Asia. In both regions, Polymerase Chain Reaction (PCR) was the predominant method of MSI detection, with 72% and 67% patient share in Europe and Asia, respectively. Next-Generation Sequencing (NGS) was used in 23-25% patients, in both regions. Highest use of NGS was observed in China (37%), while South Korea reported the lowest adoption of NGS, with 10% share. See Figure 3.

**CONCLUSIONS**

There are differences in rate of testing and test method used, between Europe and Asia. The MSI testing rate ranged from 21% to 57% in both regions, with Europe reporting higher rate of testing. The PCR test method was predominant in both regions. The prevalence of MSI-H patients also varies in these two regions, with higher prevalence in Europe. The results of this research highlights the differences in MSI testing in medical practice between both regions, which impacts the usage of CPI drugs.