32 REAL-WORLD PREVALENCE OF DEFICIENT MISMATCH REPAIR ACROSS 5 SOLID TUMOR TYPES IN CHINA

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Background The anti–PD-1 monoclonal antibody pembrolizumab has a tumor-agnostic approval by the US FDA for previously treated advanced tumors characterized as microsatellite instability-high (MSI-H)/deficient mismatch repair (dMMR). Although several studies have reported on the global prevalence of MSI-H/dMMR, data on the prevalence of dMMR across advanced solid tumor types in Chinese patients are limited. Here, we report real-world data on dMMR across 5 tumor types in Chinese patients.

Methods Adult patients with treatment-naive or previously treated advanced (stage III/IV) biliary tract, cervical, endometrial, gastric, or ovarian cancer from 5 study centers in China were included in this analysis. MMR testing was performed on archival formalin-fixed, paraffin-embedded tissue samples using the Ventana MMR RxDx panel. The primary objective of this study was to determine the prevalence of dMMR. Secondary objectives were to assess clinicopathologic characteristics and treatment patterns.

Results Of 748 patients who had tissue samples evaluable for MMR status, 314 (42.0%) had gastrointestinal (GI) tumors and 434 (58.0%) had gynecologic (GYN) tumors. The prevalence of dMMR was 9.4% (70/748) overall, 4.1% (13/314) in GI tumors (4.3% [8/186] biliary tract, 3.9% [5/128] gastric) and 13.1% (57/434) in GYN tumors (2.7% [6/221] cervical, 29.9% [49/164] endometrial, 4.1% [2/49] ovarian). In the dMMR population (n = 70), most patients were aged 18–65 years (88.6%), had stage III disease at diagnosis (78.6%), and had undergone surgery (91.4%). At the protein level, the frequency of a co-occurring loss of MLH1 and PMS2 in patients with dMMR tumors was 68.6% (table 1), which is consistent with global reports in colorectal cancer. Evaluation of the treatment history of dMMR versus the proficient mismatch repair populations showed that a higher proportion of patients with dMMR tumors received radiation (40.0% vs 23.0%), chemotherapy (70.0% vs 48.5%), and/or treatment with immune checkpoint inhibitors (11.4% vs 4.6%) at some point since their initial diagnosis.

Conclusions Prevalence of dMMR and co-occurring loss of MLH1 and PMS2 at the protein level across the 5 different tumor types in Chinese patients are consistent with reports in the literature.

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Consent Written informed consent was provided by all patients before use/analysis of tumor specimen.

Abstract 32 Table 1 Frequency of MLH1/PMS2/MSH2/MSH6 deficiency in patients with dMMR tumors

n (%)	MLH1 and PMS2	PMS2	MSH2 and MSH6	MSH6
Overall dMMR population (N = 70)	48 (69)	5 (7)	13 (19)	4 (6)
Biliary tract (n = 8)	5 (63)	0 (0)	3 (38)	0 (0)
Gastric (n = 5)	4 (80)	1 (20)	0 (0)	0 (0)
Cervical (n = 6)	4 (67)	1 (17)	1 (17)	0 (0)
Endometrial (n = 49)	35 (71)	2 (4)	9 (18)	3 (6)
Ovarian (n = 2)	0 (0)	1 (50)	0 (0)	1 (50)

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