688P Correlation between clinic-pathological features, MSI, PD-L1 and survival in resectable gastric cancer: Looking for prognostic biomarkers

M. Ratti[1], N. Valeri[2], J.C. Hahne[2], A. Lampis[2], M. Ghidini[1], G. Tomasello[1], G. Tanzi[1], L. Toppo[1], C. Pizzo[1], B. Donida[1], C. Senti[1], M. Salati[3], M. Trombatore[1], M. Fassan[4], R. Passalacqua[1]

[1]Oncology, Istituti Ospitalieri di Cremona, Cremona, Italy, [2]Medicine, The Royal Marsden NHS Foundation Trust in Chelsea, London, UK, [3]Oncology, Azienda Ospedaliero - Universitaria Policlinico di Modena, Modena, Italy, [4]Medicine, University of Padova, Padua, Italy

Background: The identification of prognostic biomarkers (PB) for gastric cancer (GC) patient selection is compelling to improve survival outcomes. Microsatellite instability (MSI) is related with a positive prognostic effect in resected GC, whereas perioperative chemotherapy (CT) is detrimental. In metastatic MSI GC, immunotherapy (IT) with anti-PD1/PDL-1 drugs has shown promising results. Nevertheless, in early stages (ES), data on the relation between MSI, clinic-pathological (CP) features, PDL-1 expression and overall survival (OS) remain sparse, especially in Western population. In this study, the prognostic role of MSI status, CP features and PDL-1 status in a large cohort of Italian GC patients (pts) was examined.

Methods: CP data of 148 consecutive stage I-III GC pts resected in Cremona Institute between 2010 and 2014 (mostly chemo and/or radio-naive) were collected. MSI analysis was performed on tissue samples for all cases by polymerase chain reaction. PDL-1 expression, evaluated by immunohistochemistry, was assessed in MSI group. Differences between subgroups were evaluated with Chi-square test; Kaplan-Meier method and Long Rank test were used to calculate OS.

Results: Female sex ($p = 0.012$), earlier TNM stages ($p = 0.011$) and lower nodal involvement ($p = 0.029$) significantly correlated with MSI status. MSI is significantly associated with prolonged survival ($p < 0.001$), with an advantage of 28.6 months in OS compared to the microsatellite stable (MSS) group. Most MSI pts (71%) expressed PDL-1. Although not statistically significant, MSI pts without PD-L1 expression showed a better trend in OS compared with MSI GC pts expressing PDL-1 and with MSS group.

Table: 688P Main CP differences between MSS and MSI groups and survival outcomes			
	MSS 110 (79.7%)	**MSI 38 (25.7%)**	**p**
SEX M F	77 (70) 33 (30)	18 (47.4) 20 (52.6)	0.012
STAGE (TNM)	19 (17.3) 26 (23.6)	13 (34.2) 13 (34.2)	0.011
I II III	65 (31.6)	12 (31.6)	
NODAL METASTASES NO YES	26 (23.6) 84 (76.4)	16 (42.1) 22 (57.6)	0.029
OS (months)	16.1	44.7	<0.001

Conclusions: MSI is an independent PB in GC and identifies a subset of pts with better OS and specific CP characteristics, including high expression of PDL-1. MSI could be a promising biomarker to select pts for CT vs IT in ES of GC.