A case of locally advanced gastric cancer treated with nivolumab, trastuzumab, plus chemotherapy in a neoadjuvant setting

Shi-Yu Jiang, Yan Qin, Yuan-Kai Shi

To the Editor: Recently, the advantages of peri-operative chemotherapy in downstaging tumor and improving patient survival have been reported.[1] Herein, we report a case of gastric cancer patient receiving neoadjuvant chemotherapy along with trastuzumab and nivolumab.

A 70-year-old Chinese man was presented to our department complaining of abdominal distension and weakness in June 2017. Complete blood count showed moderate anemia (hemoglobin, 61 g/L). A gastroscopy and biopsy led to the diagnosis of a moderately to poorly differentiated adenocarcinoma, and immunohistochemistry (IHC) indicated human epidermal growth factor receptor 2 (HER2) 2+ positivity. The pathological stage was ypT3N0. Post-operatively, the patient received four more cycles of the same regimens. In the 16 months of follow-up, he has remained free of disease.

Furthermore, tumor mutational burden (TMB) was measured (11.1 mutations/Mb) and identified to be TMB-medium. Moreover, microsatellite instability test showed microsatellite stable phenotype. Mismatch repair (MMR) proteins were detected by IHC, which showed proficient expression of MMR proteins. IHC revealed absence of expression of programmed death-ligand 1.

Cisplatin plus S-1 is regarded as a standard first-line treatment of advanced gastric cancer (AGC) in China.[2,3] Considering the moderate anemia, physical status, and HER2 overexpression, we chose a reduced dose of oxaliplatin, S-1, plus trastuzumab as the preferable regimen for this patient. Recently, ATTRACTION-2 study revealed the promising anti-tumor activity of nivolumab in Asian patients with advanced or recurrent gastric/gastro-esophageal junction cancer.[4] With an unclear role of nivolumab in the peri-operative therapy, we establish the possibility of combining a checkpoint inhibitor with chemotherapy and trastuzumab in treating locally AGC. Further investigation is required to explore this combination in the peri-operative setting.
Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Conflict of interest

None.

References

1. Cunningham D, Allum WH, Stenning SP, Thompson JN, Van de Velde CJH, Nicolson M, et al. Perioperative chemotherapy versus surgery alone for resectable gastroesophageal cancer. N Engl J Med 2006; 355:11-20. doi: 10.1056/NEJMoa055531.

2. Boku N, Yamamoto S, Fukuda H, Shirao K, Doi T, Sawaki A, et al. Fluorouracil versus combination of irinotecan plus cisplatin versus S-1 in metastatic gastric cancer: a randomised phase 3 study. Lancet Oncol 2009;10:1063–1069. doi: 10.1016/S1470-2045(09)70259-1.

3. Yamada Y, Higuchi K, Nishikawa K, Gotoh M, Fuse N, Sugimoto N, et al. Phase III study comparing oxaliplatin plus S-1 with cisplatin plus S-1 in chemotherapy-naive patients with advanced gastric cancer. Ann Oncol 2015;26:141–148. doi: 10.1093/annonc/mdv472.

4. Kang YK, Boku N, Sato T, Ryu MH, Chao Y, Kato K, et al. Nivolumab in patients with advanced gastric or gastro-oesophageal junction cancer refractory to, or intolerant of, at least two previous chemotherapy regimens (ONO-4538-12, ATTRACTION-2): a randomised, double-blind, placebo-controlled, phase 3 trial. Lancet 2017;390:2461–2471. doi: 10.1016/S0140-6736(17)31827-5.

How to cite this article: Jiang SY, Qin Y, Shi YK. A case of locally advanced gastric cancer treated with nivolumab, trastuzumab, plus chemotherapy in a neoadjuvant setting. Chin Med J 2019;132:1370–1371. doi: 10.1097/CMA.0000000000000241