A case of hepatocellular carcinoma with pseudoprogression to atezolizumab plus bevacizumab

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Background: Immune checkpoint inhibitors(ICIs) are now widely used in several cancer types, including advanced hepatocellular carcinoma(HCC). Unlike conventional anticancer drugs, ICIs can cause atypical response pattern. After ICI treatment, pseudoprogression may be observed, which is a phenomenon in which the tumor grows before it shrinks. Herein, we report a case of HCC with pseudoprogression followed by a partial response to atezolizumab plus bevacizumab(Atezo+Bev).

Case: 3 years ago, a 77 year-old woman was referred to our hospital after abdominal computed tomography(CT) scan revealed a HCC(Figure 1). Right hepatectomy was performed because there are no extrahepatic lesions at positron emission tomography(PET) scan. But after 3 months of operation, recurred HCC was confirmed by follow up CT scan and radiofrequency thermotherapy was done(Figure 2). And 2 years ago, routine CT checkup of the chest revealed left upper lobe(LUL), left lower lobe(LLL), right middle lobe(RML) nodule, although CT scan of abdomen showed no evidence of recurrence(Figure 3). By wedge resection of lungs, recurred HCC was diagnosed again, so treatment with Atezo+Bev was initiated. After third administration of Atezo+Bev, CT scan showed tumor growth at LLL nodule(Figure 4). But the treatment was continued at the discretion of attending physician, because it did not meet the progressive disease criteria according to Response Evaluation Criteria in Solid Tumors(RECIST). After another third administration of Atezo+Bev, the tumors reduced in size and showed a partial response according to RECIST(Figure 5). The transient growth of the tumors was considered to be pseudoprogression. The patient is continuously receiving Atezo+Bev therapy without any major adverse events.

Conclusion: We encountered a case of pseudoprogression in HCC treated with Atezo+Bev. It is expected that more immunotherapy regimens will become available in the future, and it will be necessary to improve the understanding of pseudoprogression.

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