Promising results with tagraxofusp in BPDCN

Patients with previously untreated or relapsed blastic plasmacytoid dendritic-cell neoplasm (BPDCN), an aggressive blood cancer, could achieve promising clinical responses with tagraxofusp monotherapy, according to a recent investigation.

In a non-randomised, open-label, multicohort study, Naveen Pemmaraju (MD Anderson Cancer Center, Houston, TX, USA) and colleagues enrolled 47 patients with untreated (n=32) or relapsed (n=15) BPDCN. Patients were given tagraxofusp at a dose of either 12 µg or 7 µg per kg of bodyweight on days 1–5 of every 21-day cycle. Most patients received the 12 µg/kg dose; only three previously untreated patients received 7 µg/kg and were not included in the analysis. Treatment continued until disease progression or unacceptable toxicity. The primary endpoint was the proportion of previously untreated patients who achieved a complete response and clinical complete response; duration of response was a secondary endpoint.

The results showed that of the 29 previously untreated patients who received tagraxofusp at 12 µg/kg, 21 (72%; 95% CI 53–87) achieved a complete response or clinical complete response. At a median follow-up of 19 months (range 1–42), the median duration of response had not been reached. Overall survival in these patients was 59% at 18 months and 52% at 24 months. The most common adverse events were increased alanine aminotransferase (in 30 [64%] of 47 patients), increased aspartate aminotransferase (in 28 [60%]), hypoalbuminaemia (in 26 [55%]), and peripheral oedema (in 24 [51%]). Capillary leak syndrome was reported in nine [19%] patients, and was associated with one death in each of the 7 µg and 12 µg subgroups.

"The study's results provide the basis for a novel, targeted therapy option for patients with an aggressive blood cancer, BPDCN, for which there were no previously approved therapies", explained Pemmaraju. "Furthermore, this study demonstrates a highly successful multi-disciplinary collaboration among healthcare stakeholders in a rare disease field."

"Impressive response and long-term survival were obtained [in this study], although 19% of patients developed a capillary leak syndrome", commented Stefano Pileri (European Institute of Oncology, Milan, Italy). "Hypomethylating agents, anti-CD123-immunotherapies, and venetoclax also represent promising options. Combinatory studies are desirable to cure the disease and minimise toxicity."

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For the **study by Pemmaraju and colleagues** see *N Engl J Med* 2019; published online April 25. DOI:10.1056/NEJMoa1815105