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Beneficial impact of first-line mogamulizumab-containing chemotherapy in adult T-cell leukemia-lymphoma (ATL)

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Background:

Even in the modern era, the survival outcomes of aggressive adult T-cell leukemia-lymphoma (ATL) remain dismal. For transplant-eligible patients with ATL, allogeneic hematopoietic stem-cell transplants (allo-HSCT) is a potentially curative treatment. However, 80–90% of aggressive ATL patients cannot receive allo-HSCT in Japan. Although chemotherapy in combination with Mog, an anti-CC-chemokine receptor 4 antibody, was approved in Japan in 2014 for untreated aggressive ATL, it is still unclear whether Mog-containing treatment prolongs survival for ATL, because of a difficulty of conducting further prospective randomized studies.

Methods:

To evaluate clinical outcomes in patients with aggressive ATL in the last decade, we retrospectively analyzed 73 patients with aggressive ATL at Kumamoto University Hospital between 2010 and 2021.

Results:

Among patients under 70 years old, the probability of 4-year overall survival (OS) was 46.6% in patients receiving allogeneic hematopoietic stem-cell transplants and 35.6% in non-transplanted patients. Of note, the probability of 4-year OS among non-transplanted patients was 43.6% in the first-line Mog-containing treatment group compared to 20.5% in the chemotherapy alone group ($P = 0.025$). Furthermore, focused on the elderly patients, the probabilities of 4-year OS in the Mog-containing treatment group were higher than those in the chemotherapy alone group: for patients over 65 years old, (40.3% vs. 12.5%; $P = 0.009$) and for patients over 70 years old, (33.3% vs. 10.0%; $P = 0.015$). Notably, among patients who received first-line Mog-containing treatment, cutaneous adverse reactions induced by Mog were associated with favorable prognosis.

Conclusion:

Mog-containing treatment prolonged the survival of non-transplanted patients with untreated aggressive ATL. Therefore, the first-line Mog-containing treatment has the potential to be a promising therapeutic strategy for transplant-ineligible patients with ATL, even in the elderly.

(277/300 words)

Disclosure of Interest Statement:

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