Complete Response to Eribulin in a Patient with Unresectable Liposarcoma: A Case Report and the Implications of New Biomarkers

Key words: Eribulin, dedifferentiated liposarcoma, phosphorylated AKT

To the Editor I read with great interest the recent case report by Nakamura et al. published in your journal (1). The group describes an unexpected complete response to the microtubule dynamics modifier eribulin in a patient with advanced dedifferentiated liposarcoma. The authors must be congratulated for reporting this exceptional response and for speculating on the potential role of Akt signaling for the activity of the compound.

The authors describe the approval status of eribulin for sarcoma based on the results of a pivotal trial, where the halichondrin B analog was associated with an overall survival benefit compared to treatment with dacarbazine. They highlight the fact that eribulin extends the overall survival by about two months, which was true for the total patient population included in that trial.

The study that led to the registration of eribulin for sarcoma was a trial involving patients with advanced leiomyosarcoma and liposarcoma (2). In the total study population of more than 450 patients with such “L-sarcomas”, the overall survival was significantly improved in patients assigned to eribulin compared to those treated with dacarbazine (median 13.5 [95% confidence interval [CI] 10.9-15.6] vs. 11.5 months [9.6-13.0]; hazard ratio 0.77 [95% CI 0.62-0.95]; p=0.0169).

The study population was dominated by leiomyosarcomas, with liposarcomas accounting for only 33%-35% of treated patients. Of note, the efficacy of eribulin against the three subtypes of liposarcomas included in the pivotal trial was much more pronounced than in the total group of “L-sarcomas”. In patients with liposarcoma, the overall survival was significantly improved (15.6 vs. 8.4 months; hazard ratio 0.51; 95% CI 0.35-0.75; p< 0.001) with eribulin versus dacarbazine. A longer overall survival with eribulin was observed in all histologic subtypes (3). The progression-free survival was also improved with eribulin versus dacarbazine in liposarcoma (2.9 vs. 1.7 months, respectively; hazard ratio 0.52; 95% CI, 0.35-0.78; p=0.0015), which was not the case in the total study population of “L-sarcomas”.

It is noteworthy and still unknown to many sarcoma experts that, in patients with pleiomorphic liposarcoma, eribulin tripled the overall survival compared to dacarbazine (22.2 vs. 6.7 months); in dedifferentiated liposarcoma, the drug more than doubled the overall survival (18.0 vs. 8.1 months); and in myxoid-round cell liposarcoma, there was also a pronounced difference in favor of eribulin over dacarbazine (13.5 vs. 9.6 months).

The role of Akt clearly deserves further attention in this context, and biological material from the registration trial should be used to further substantiate the working hypothesis of our Japanese colleagues.

The author states that he has no Conflict of Interest (COI).

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References


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