Platinum rechallenge in advanced thymic epithelial tumors: still an option in the age of target therapy? A monocentric experience

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Background

Advanced unresectable thymic epithelial tumors (TETs) are usually treated with platinum-based chemotherapy, although no randomized trials have been conducted and no clear recommendation on the regimens choice are available. Actually, the modern scenario of TETs treatment has become more complex after the introduction of biological agents, but no clear evidences on the more effective sequence treatment between chemotherapy and target therapy have been stated. Here we investigate the effectiveness of platinum rechallenge in advanced TETs.

Methods

All the clinical data of patients with advanced/ unresectable or metastatic TETs, treated with first line platinum-based chemotherapy at our institution during a 10-year period were retrospectively reviewed, and those who received platinum rechallenge from the third line and beyond, were included in this study. Patients characteristics, disease control rate (DCR), overall survival (OS), progression free survival (PFS) and post-rechallenge (P-Re) OS and PFS were analysed.

Results

Platinum rechallenge was administered in 22 patients, of whom 17 had thymoma and 5 thymic carcinoma. A DCR of 95.4% (stable disease (SD) 63.6%, partial response (PR) 31.8%) was achieved after the first line platinum-based chemotherapy according to RECIST 1.1 criteria (Table 1), while a DCR of 81.8% (SD 50%, PR 31.8%) was registered after platinum rechallenge (Table 2). All the responders to first line, were confirmed as responders also to rechallenge, only 3 patients with stable disease to first line, had a progressive disease after rechallenge. The median OS of 122 months (Table 3) was statistically correlated with histotype (p=0.015) and with the median treatment free interval (TFI) of 18 months (p=0.019) (Figure 1A; 1B; 1C). No statistical correlation has been found between the median P-Re OS of 27 months, the histotype and the TFI (Figure 2A; 2B). To point out that a statistical correlation between the P-Re PFS of 7 months and the administration of target therapy before rechallenge, has been observed (p=0.04) (Figure 3).

Table 1. DCR after first line platinum-based chemotherapy

CR	0%
PR	31.8%
SD	63,6%
PD	4.6%
DCR (CR+PR+SD)	95.4%

Table 2. DCR after platinum rechallenge

CR	0%
PR	31.8%
SD	50%
PD	18.2%
DCR (CR+PR+SD)	81.8%

Table 3. Median OS and Post-Rechallenge OS (P-Re OS)

Median OS	122 months
Median P-Re OS	27 months

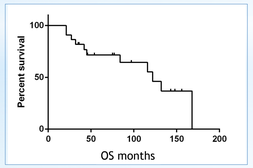

Figure 1A. OS

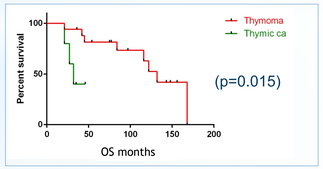

Figure 1B. OS correlated with histotype

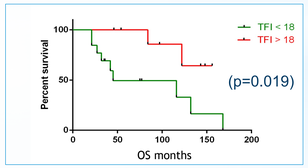

Figure 1C. OS correlated with TFI

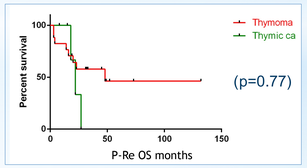

Figure 2A. P-Re OS correlated with histotype

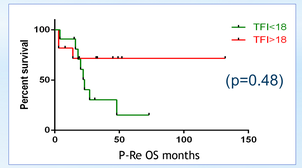

Figure 2B. P-Re OS correlated with TFI

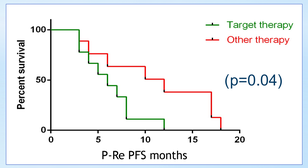

Figure 3. P-Re PFS correlated with target therapy

Conclusion

Our retrospective analysis showed that platinum rechallenge may be considered a suitable treatment for advanced, heavily pretreated TETs, especially in case of previous response and longer TFI. Moreover, in the light of our results, we assume, as already stated for other solid tumors, that the chemo-resistant clones can be re-sensitized to platinum by target agents. Prospective trials are needed.

References

- Available evidence and new biological perspectives on medical treatment of advanced thymic epithelial tumors. Serpico D. et al. Annals of Oncology, 2015
- Key components of chemotherapy for thymic malignancies: a systematic review and pooled analysis for anthracycline-, carboplatin- or cisplatin-based chemotherapy. Okuma Y. et al. J Cancer Res Clin Oncol., 2015
- Combination Chemotherapy with Doxorubicin, Vincristine, Cyclophosphamide, and Platinum Compounds for Advanced Thymic Carcinoma. Toshihiko A. et al. J Thorac Oncol, 2011
- Multidisciplinary Treatment for Advanced Invasive Thymoma with Cisplatin, Doxorubicin, and Methylprednisolone. Yokoi K. et al. J Thorac Oncol, 2007

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