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Corticosteroid administration in immune checkpoint inhibitor-induced pneumonitis

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Background/Aims: For the management of immune checkpoint inhibitor (ICI)-induced pneumonitis (ICI-pneumonitis), discontinuation of ICIs and high dose corticosteroid based on grade are generally recommended. However, high dose corticosteroid may result in various adverse effects. This study aimed to explore whether ICI-pneumonitis can be successfully managed without high dose corticosteroid through a case series analysis. **Methods:** We reviewed data of 706 cancer patients who were treated with anti-PD-1/anti-PD-L1 monoclonal antibodies (mAbs) and/or anti-CTLA-4 mAbs and identified radiographically proven pneumonitis. The evaluation of the management and outcome of pneumonitis were classified according to time of corticosteroid administration. **Results:** ICI-pneumonitis developed in 16 patients (2.3%); 9 grade 1, 4 grade 2 and 3 grade 3. Initially, 10 patients were spared from corticosteroid administration; 4 patients eventually received corticosteroid due to clinical, radiographical aggravation and/or clinicians' preference. (Late-steroid group) The other 6 patients never received corticosteroid and improved or remained stable radiographically. (Non-steroid group) Pneumonitis grade was not significantly different between the Non-steroid and the Late-steroid groups. (p=1.000) Compared to the Late-steroid group, the Non-steroid group had a later onset from initiation of ICIs (37.48 weeks vs. 25.45 weeks), more prior lines of chemotherapy (2.30 vs. 0.75), higher proportion of current/ex-smokers (83.3% vs. 50.0%), and fewer other accompanying immune-related adverse events (50% vs. 75%). **Conclusions:** About one third of patients was successfully managed without corticosteroid administration. The grade alone did not seem to precisely predict corticosteroid requirement, and some other factors may be associated
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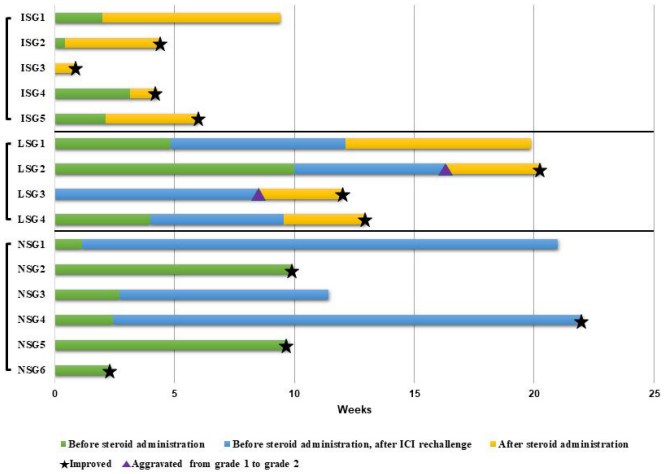

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The clinical characteristics and outcomes of primary breast sarcoma

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Background/Aims: Primary breast sarcoma (PBS) is extremely rare disease, with less than 1% of all malignant tumor of breast. There are many controversies concerning the biological characteristics, prognosis and optimal treatment of these tumors. The aim of this study was to evaluate the clinical and pathologic characteristics of PBS and to assist in determining the appropriate treatment strategies. **Methods:** We retrospectively analyzed the results of 27 consecutive patients with PBS, treated at the Asan Medical Center, Seoul, Korea between January 1998 and December 2016. Kaplan-Meier method was used to calculate overall survival (OS) and disease-free survival (DFS). Prognostic factors in survivals were analyzed Cox proportional hazard model. **Results:** The median age was 45 years (range: 14-66) and patients were one man and 26 women. The mean tumor size was 5.4 cm (range: 0.8-13) and the most common histologic subtype was angiosarcoma (n=8) followed by leiomyosarcoma (n=4), liposarcoma (n=3) and others. All patients underwent surgery. Twelve patients underwent mastectomy and fifteen patients underwent lumpectomy. Sixteen patients received adjuvant therapy including chemotherapy(n=7) and radiotherapy(n=13) and both therapy(n=4). After median follow-up of 30 months (range: 4-196), 11 patients developed recurrent diseases. Five-year OS was 81% and five-years DFS was 60%. Of the 27 patient, 6 patients died. The disease free survival was analyzed according to risk factors for recurrence. Potential risk factors were analyzed by Log-rank test and Cox proportional hazard model. In Log-rank test, patients with angiosarcoma had poorer DFS than others (p-value=0.03). Even though there was no statistical significance, there were trends toward worse DFS with angiosarcoma (HR=3.45, 95% CI, 0.65-18.3 p-value=0.146), large size (HR=1.55, 95% CI, 0.26-9.33 p-value=0.63) and high grade tumors (HR=2.03, 95% CI, 0.37-11.5 p-value=0.41) by using Cox model. **Conclusions:** Our study showed that histologic subtype of angiosarcoma had a poor prognosis in PBS, and tumor size and grade were also prognostic factors. To improve survival in patients with PBS, aggressive surgical resection with the multidisciplinary approach might be needed.

Table 1. Univariate analysis of factors influencing disease-free survival

Variable	Hazard ratio (CI)	p-value
Histologic subtype		
Non-angiosarcoma	1	-
Angiosarcoma	3.45 (0.65-18.32)	0.146
Tumor size		
<5cm	1	-
≥ 5cm	1.55 (0.26-9.33)	0.632
Grade		
1	1	-
2 + 3	2.03 (0.37-11.15)	0.415
Type of surgery		
Lumpectomy	1	-
Mastectomy	1.26 (0.18-8.76)	0.814
Adjuvant therapy		
No	1	-
Yes	1.254 (0.23-6.91)	0.795

Figure 1. Overall survival and disease-free survival