PGEMOX/GELOX regimen is superior to non-PGEMOX/GELOX regimens in the treatment of patients with stage IE/IIE extranodal natural killer/T cell lymphoma: a multicenter retrospective study in a cohort of 599 patients

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BACKGROUND: Optimal chemotherapy regimen for extranodal natural killer/T-cell lymphoma (ENKTL) has not been fully defined.

METHODS: We retrospectively compared the outcome of 599 patients newly diagnosed with stage IE /IIE ENKTL from three centers who received pegaspargase plus gemcitabine and oxaliplatin (PGEMOX)/L-asparaginase plus gemcitabine and oxaliplatin (GELOX) (n = 203) or non-PGEMOX/GELOX regimens (n = 396) as the first-line therapy. The non-PGEMOX/GELOX regimens include CHOP/CHOP-like (n=181): cyclophosphamide + doxorubicin + vincristine + prednisone; EPOCH (n=86): etoposide + doxorubicin + vincristine + cyclophosphamide + prednisone; ATT (n=38): alternating triple therapy (CHOP-B, cyclophosphamide + doxorubicin + vincristine + bleomycin + prednisone; IMVP-16, ifosfamide + methotrexate + etoposide; DHAP, dexamethasone + cisplatin + cytarabine); SMILE (n=5): dexamethasone + methotrexate + ifosfamide + L-asparaginase + etoposide; not receiving any chemotherapy (n=86). In the PGEMOX/GELOX group, 82.8 % patients (n=168) received radiotherapy (RT). In the non-PGEMOX/GELOX group, 75.8 % patients (n=300) received RT.

RESULTS: Compared with non-PGEMOX/GELOX regimens, PGEMOX/GELOX regimen elicited a significantly higher ORR (95.6% vs. 80.2 %, P <0.001) and a significantly improved 5-year PFS (70.2% vs. 46 %, P < 0.001) and 5-year OS (73.5% vs. 52.7 %, P<0.001) in patients with stage I-II disease. Toxicity of both regimens was acceptable. In conclusion, The PGEMOX/GELOX regimen produces a better ORR and long outcome with acceptable toxicity than the non-PGEMOX/GELOX regimens for patients with early stage ENKTL.