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## Progress in diagnosis and treatment of advanced NK/T cell lymphoma

**Mingzhi Zhang**

First Affiliated Hospital of Zhengzhou University, China

Natural killer/T-cell lymphoma (NKTCL) is a subtype of non-Hodgkin's lymphoma, which has a higher incidence in East-Asia compared with United States and Europe. This tumor is characterized by highly aggressive nature, rapid progression and poor survival. However, optimal treatment strategies for advanced NKTCL have not been defined. Traditional CHOP and CHOP-like regimens usually provide poor clinical outcomes. Recently, L-asparaginase (L-Asp) based regimen including dexamethasone, methotrexate, ifosfamide, L-Asp and etoposide (SMILE) has been devised and showed a relatively improved efficacy, but at the same time, severe hematologic toxicity were seen. We formulated a novel pegaspargase based chemotherapy regimen: dexamethasone, cisplatin, gemcitabine, pegaspargase (DDGP) and performed clinical trial (No. NCT01501149). Patients were newly diagnosed in stage III-IV and had performance scores in 0-2. Six cycles of DDGP or SMILE chemotherapy were randomly assigned to them. In conclusion, DDGP chemotherapy resulted in significant improvement in one-year PFS (86% versus 38%,  $P=0.006$ ), two-year OS (74% versus 45%,  $P=0.027$ ) and better tolerability compared with SMILE chemotherapy. We also discussed and elucidated the mechanisms concerned with the better effect of DDGP on DNA damage, nucleic acid metabolism, and ATP-binding cassette transporters-dependent multidrug resistance. In addition, we are making great efforts to explore new approaches including hematopoietic stem cell transplantation with a unique induction chemotherapy and application of PD-1 immune checkpoint inhibitor, which greatly benefit the patients after chemotherapy failure.

### Biography

Mingzhi Zhang completed his PhD at Zhengzhou University Medical School. He is the Director of Lymphoma Diagnosis and Treatment Center in Henan Province and Department of Oncology, The First Affiliated Hospital of Zhengzhou University. He has published more than 30 papers in reputed journals and achieved honors and awards on Lymphoma Research in China.

mingzhi\_zhang@126.com

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