Extranasal natural killer (NK)/T-cell lymphoma presenting acute liver failure.

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**Introduction:**
Acute liver failure (ALF) is a medical emergency requiring immediate evaluation and treatment. We report a patient with ALF caused by extranasal NK/T-cell lymphoma.

**Case:**
A 80-year-old Japanese man presented to the general medicine department with a few-day history of fever and appetite loss. He denied any abnormalities in his blood test and gastroendoscopy one month prior his visit. On physical examination, his blood pressure was 80/42 mmHg, pulse 98 /min, respiratory rate of 28 /min with an oxygen saturation 95% on room air, and temperature of 36.7°C. He had a tenderness in the right upper quadrant of the abdomen. Initial investigations showed anemia, thrombocytopenia, and elevated liver enzymes as follows; Hemoglobin 12.0 g/dL, platelet count 52×10⁹ /L, aspartate aminotransferase 1723 IU/L, alanine aminotransferase 924 IU/L, lactate dehydrogenase 1944 IU/L. Computed tomography of the abdomen revealed hepatomegaly and 10 mm-enlarged intraperitoneal lymph nodes. He was highly suspected to have ALF due to malignant lymphoma. On day 2, bone marrow and liver biopsy specimens were obtained under high volume continuous hemofiltration and plasma exchange and then he started prednisolone 100mg based on anthracycline-containing regimen (CHOP, cyclophosphamide, adriamycin, vincristine, prednisolone) for lymphoma. However, his condition deteriorated and he died on day 3. We diagnosed extranasal NK/T-cell lymphoma from liver biopsy specimens and autopsy, characterized by immunophenotypes as follow; CD3+, CD56+, cytotoxic molecules +, Epstein Bar virus (EBV) encoded small RNA+.

**Discussion:**
Although hematologic malignancy is a rare cause of ALF, we should remember hematologic malignancy as differential diagnosis of ALF with hepatomegaly. Aggressive course of this case may reflect EBV reactivation, suggesting an important role in developing this lymphoma.