

# AB003. Circulating EBV (cEBV) and metabolic imaging monitoring during therapy for thymic lymphoepithelioma-like carcinoma (tLELC): a case study

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**Abstract:** EBV association with the rare and usually fatal tLELC has been well documented, but not thoroughly studied, in the literature. A symptomatic 16-year-old boy was admitted for a locally advanced, inoperable EBV-associated tLELC. The diagnosis was established by appropriate immunohistology and RNA in-situ hybridization (ISH) for EBNA. The patient responded to induction combination chemotherapy followed by consolidation irradiation course given to the primary mediastinal lesion. Later, upon disease progression, he was enrolled to an immunotherapy (pembrolizumab) phase II clinical trial. Under this therapy, disease control was regained and lasted about 8 months. Treatment was discontinued, due to disease progression, after completion of 13 courses. Disease evaluation included

serial circulating plasma EBV titer as well as concomitant 18F-FDG PET-CT scintigraphy/scanning. We attempt herein to compare how well the four different measurement modalities employed, namely-RECIST 1.1., active FDG-avid tumor volume, SUVmax and cEBV reflect the clinical course of disease and tumor burden changes. Among these, FDG-avid tumor volume apparently conforms better than conventional bi-dimensional CT-based RECIST 1.1 to the actual tumor burden and clinical course. Similarly, cEBV titer seems sensitive to various therapeutic intervention including irradiation. Furthermore, being a subclinical sensor, it could provide lead-time and herald overt disease progression. Albeit the entity presented, namely EBV-associated tLELC is extremely rare, certain conclusions obtained could, when properly modified, be applied in the management of more common conditions.

**Keywords:** EBV; thymic lymphoepithelial carcinoma; FDG-avid volume

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## Footnote

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