Factsheet

Epstein-Barr Virus–Associated Post-Transplant Lymphoproliferative Disease or Disorder (EBV⁺ PTLD)

A rare, life-threatening complication following transplant

Overview

EBV⁺ PTLD is a serious condition that can develop in patients who have received a **solid organ transplant** (such as a kidney, liver, heart, or lung) or an **allogeneic stem cell (bone marrow) transplant**.

To prevent rejection, transplant recipients must take medications that suppress their immune system. This immune suppression can make patients susceptible to the **Epstein-Barr virus (EBV)**, a common virus most people carry. In some patients, this virus may grow unchecked and can lead to a cancer known as post-transplant lymphoproliferative disease or disorder (PTLD).

The role of Epstein-Barr virus

- EBV is one of the most common human viruses
- In people with healthy immune systems, EBV is kept under control
- After transplant, suppression of **T cells** weakens this control
- Loss of immune surveillance is a key driver of EBV⁺ PTLD

Who is affected

EBV⁺ PTLD can affect both:

- Solid organ transplant recipients
- Stem cell (bone marrow) transplant recipients

Key risk considerations:

- PTLD occurs in approximately **2–20%** of transplant recipients, depending on transplant type
- Risk is highest:
  - Within the **first year after transplant**
  - Again **5–15 years after transplant**
- Risk is generally higher in solid organ transplant recipients

Severity and outcomes

EBV⁺ PTLD is an aggressive disease with poor outcomes, particularly when it does not respond to treatment or returns after initial therapy.

- Mortality rates:
  - **70–90%** following stem cell transplant
  - **50–70%** following solid organ transplant
- Median survival:
  - **Less than one month** for stem cell transplant recipients
  - **Approximately four months** for solid organ transplant recipients

Current treatment landscape

There are **no FDA-approved therapies** specifically for EBV+ PTLD.

Current approaches may include:

- Reducing immune-suppressing medications, which may increase the risk of organ rejection
- Antibody-based therapy, sometimes combined with chemotherapy

Limitations of current care:

- Variable treatment landscape
- High risk of infections and treatment-related toxicities
- Many transplant patients cannot tolerate aggressive therapy due to immune suppression

Unmet medical need

Patients with EBV+ PTLD face:

- Few treatment options
- High mortality rates
- Very poor outcomes when disease is relapsed or refractory

Despite the severity of the disease, **no therapies are currently approved by the FDA** specifically for EBV+ PTLD. New, targeted therapies are urgently needed.

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