

ESCMID Postgraduate
Education Course

**Educational Programme
on Transplant
Infectious Diseases**

**São Paulo, Brazil
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Illustrative clinical case

Donor-derived

**Mycobacterial
infection**

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Digestive Transplant Service

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The Pancreas - Kidney recipient

- 45 yo man
- Diabetes and chronic renal insufficiency
- **Negative TST**
- IS: Basiliximab, Prednisone, Tacrolimus and Micofenolate mofetil
- No major clinical complications, discharged in **post-operative day 30**
- 2th mo after transplantation: Fever + night sweats + chills

Chest X ray: Normal

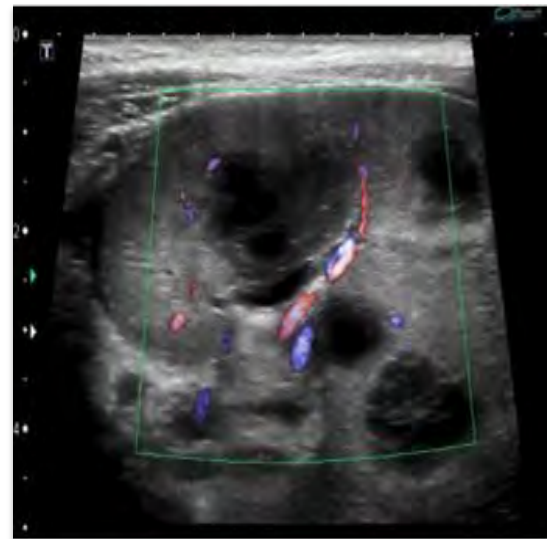
US scan: Peri-graft collections

Empiric THERAPY: Broad-spectrum ATM

Percutaneous drainage of abscesses:

+ Acid-Fast Bacilli on Ziehl-Neelsen stain

Kidney: Nodule in the renal hilum.
Diffuse urothelial thickening.
Compression of renal vein.



Pancreas: Collection adjacent to the pancreatic graft



Lungs: Endobronchial spread: "tree-in-bud"



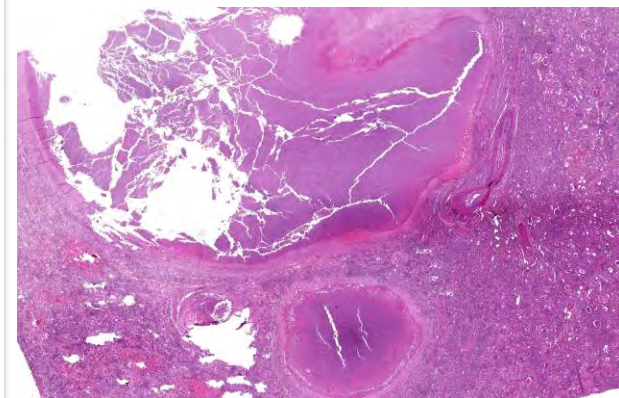
CNS: Brain abscess: frontal lesion with perilesional halo of edema



Tyroid: Increased volume, heterogeneous collection on the left lobe.



Disseminated Tuberculosis



Outcome

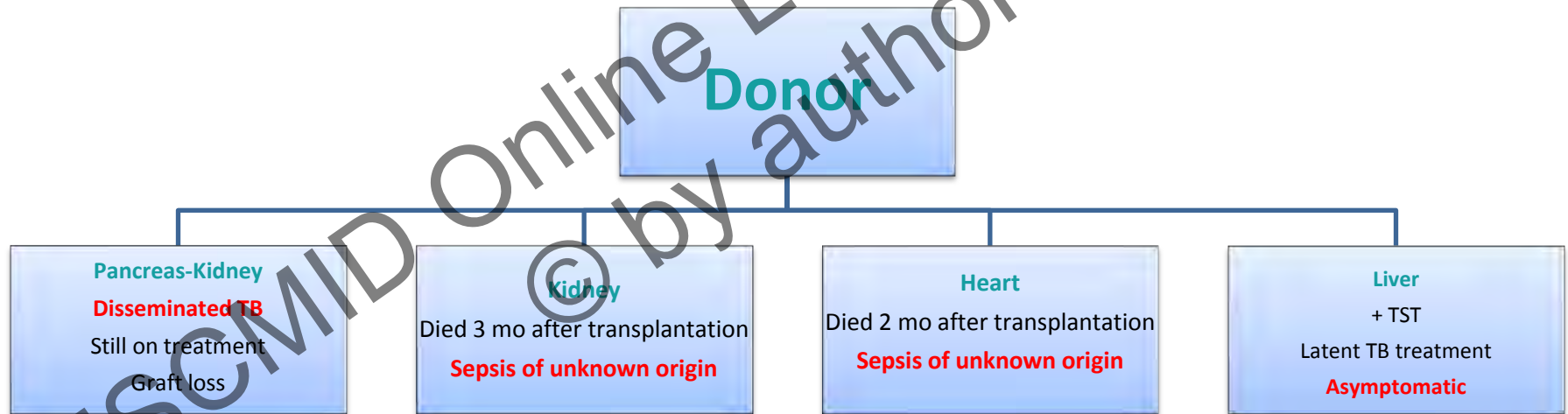
- AntiTB therapy: RHZE / S and quinolone
- Decreased immunosuppression: grafts acute rejection (hemodialysis and insulin intake)
- **Surgical approach**
- **Still on treatment > 12mo**

Kidney transplantectomy



Caseous necrosis in the explanted kidney and mesentery

Multi-recipient donor - transmitted tuberculosis ?



No autopsy was performed on deceased organ recipients!

The Donor

- 23 yo, 34 weeks pregnant woman
- Admitted at the UH with **intense headache**
- **Day 3:** mild fever, neck stiffness and seizures → **meningoencephalitis ? Empirical treatment: ceftriaxone, anti-TB and acyclovir**
- Negative cultures (Liquor and blood)
- **Day 6:** lost consciousness and became comatous → underwent an emergency caesarean section
- **CT scan: diffuse subarachnoid bleeding**
- **Day 9: Brain death**

Exams prior to donation

Cerebrospinal Fluid Examination (CSF)

Color: clear

Cellularity: 116 WBC /5 RBC

70% Neutrophils

Glucose: 22 mg/dL

Protein: 479,5 mg/dL

VDRL: negative

Gram and **ZN stain: negative**

India ink stain: negative

Culture: negative (mycobacteria, bacteria and fungi)

Normal Chest X ray

Negative Acid-fast bacilli (AFB): traqueal secretion

Few months later ...

Two months after the **death of the donor**, the **traqueal aspirate culture** for *Mycobacterium tuberculosis* became positive and **spleen biopsy** revealed **caseating granuloma (retrospectively analysed)**.

No drug resistance

Pregnancy-associated immunosuppression

Donor with unrecognized active TB

Disseminated disease: CNS, Lungs and Spleen

Questions

- Should we have accepted donation?
- Which screening should have been done before procurement?
- What steps we should consider?

- **Organ Donor:** 46 yo, man with history of seizure disorder, alcoholism and incarceration
 - Altered mental status, fever, pneumonia and cerebral vasculitis
 - 2 previous negative TST
 - **3 weeks later: positive CSF and spleen tissue**
 - **Positive epidemiology and symptoms**
- TB vasculitis → vessels at the base of the brain ?
- **Recipients:**
 - **Recipient A (Kidney):** 50 yo woman, sepsis-like syndrome and **died 9 weeks** after transplantation, despite anti-TB treatment
 - **Recipient B (Kidney):** 23 yo woman, fever and headache + pancytopenia. On anti -TB treatment → doing well
 - **Recipient C (Liver):** 59 yo man. On anti -TB treatment 2th mo after transplantation.

Recognizing potential meningoencephalitis (ME)

1. What is the potential donor's age and **cause of brain death**?
2. Were there any **co-morbidities** that may support stroke/CVA diagnosis (i.e. Diabetes, hypertension, prior CVA) versus possible ME noted.
3. Did the potential donor have a **fever at presentation** of illness/admission?
4. Was **CT/MRI** of the head or **lumbar puncture** consistent to infectious process?
5. Was the **donor immunosuppressed** host?
6. Did the donor have any potential **environmental exposures** associated with organisms causing ME?

Donors with meningoencephalitis

- Donors with proven or presumed infections should be treated for 24-48 h and the recipient for 7-14 d (II-2).
- If the donor die of **encephalitis without a proven cause: donation should be avoid!**
- Meningitis caused by highly virulent or intracellular organisms (Ex Listeria) are still CI

Organs from donors with known active TB should be discarded – Unacceptable risk. TB IGRA may play a role in screening the donor

Take home message

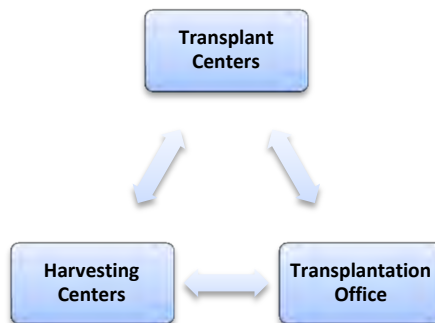
Organ procurement:

- If meningoencephalitis is suspected, ID consultation before acceptance is advice!

Acknowledge:

- Autopsy of deceased organ recipients
- Bank of donors data and samples
- Genotyping RFLP IS 6110
- Spleen biopsy HP + culture: **which is the value?**

Communication:



Need to gather relevant information about the donation process