

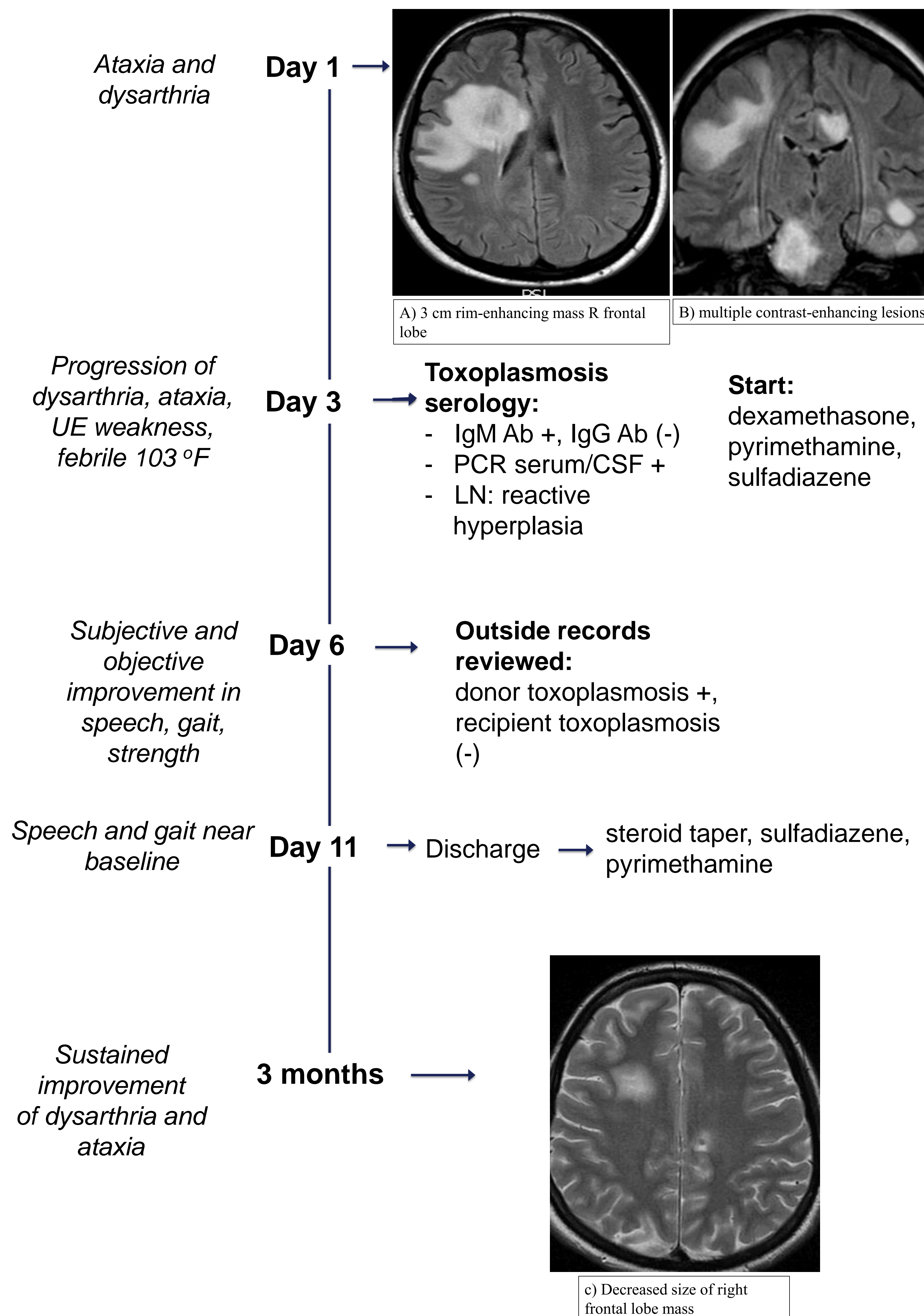
Introduction

Opportunistic infection is a feared complication of solid organ transplant. This case highlights a potentially avoidable, donor derived transmission resulting in acute disseminated toxoplasmosis and proposes a measure to facilitate transfer of vital information between hospitals for transplant recipients.

Case Presentation

- 22-year-old man four months status post deceased donor liver transplant
 - Presented with 2 weeks of progressive slurred-speech and gait ataxia
 - Medications include azathioprine, tacrolimus, valganciclovir. Recently finished pentamidine course
- Physical exam
 - subtle droop of the left oral commissure, 4/5 left upper and lower
 - extremity strength, gait imbalance and dysarthria
- Lab results
 - WBC 2,910/mm³ (normal 3.5-10.8) with 36% neutrophils
 - CT head: multiple hypodense lesions with a 3 cm right frontal lobe
 - MRI brain: multiple rim-enhancing lesions with significant vasogenic edema
 - CT chest, abdomen and pelvis with widespread intraperitoneal lesions
 - LP: showed WBC 13/mm³ (0-5) and total protein 83 mg/dL (15-45)
 - Toxoplasmosis IgM Antibody positive, IgG negative, serum and CSF PCR positive for toxoplasmosis
- Outcome
 - Diagnosed with acute disseminated toxoplasmosis
 - Treated with short course of dexamethasone and high dose pyrimethamine and sulfadiazine
 - Discharged safely with infectious disease and transplant hepatology follow-up

Hospital Course



Transplant Card



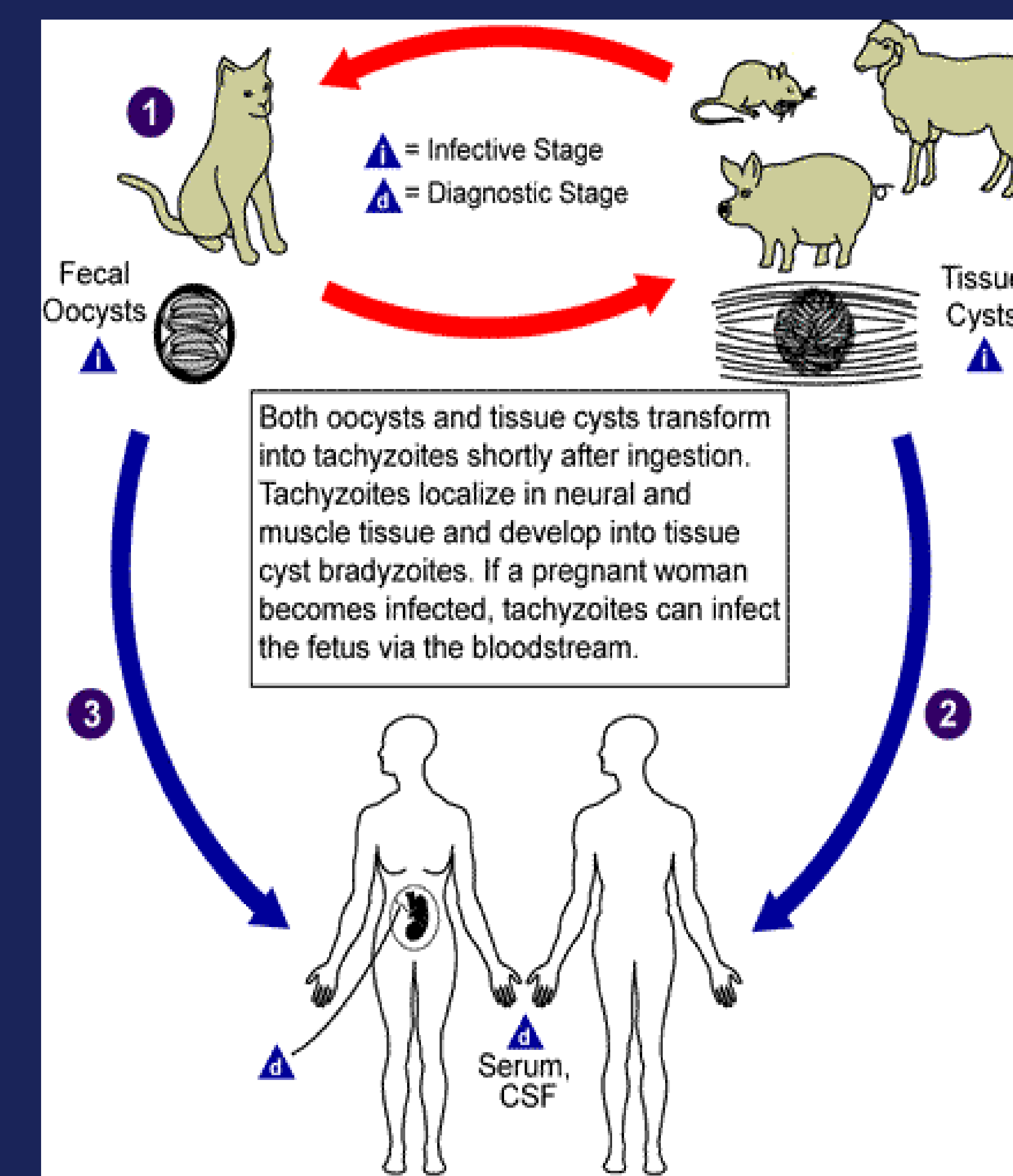
Name: Homer J Simpson
DOB: 12/17/1989
Transplant Organ: Liver
Recipient status: Donut+, Itchy&Scratchy Disease -
Donor Status: Donut+, Itchy and Scratchy Disease -
Prophylaxis: Duffailumab

Teaching Points

1. Donor derived toxoplasmosis is a potentially fatal infection that requires prompt diagnosis and treatment
2. Transplant recipients should be screened to assess risk of infection and high-risk patients should receive chemoprophylaxis
3. Transplant identification card or application may allow more efficient communication of vital information between hospitals and allow for a more rapid diagnosis of an opportunistic infection

Donor Derived Toxoplasmosis

- Incidence in solid organ transplant higher at sites where cyst reside, (e.g. heart)
 - Significant reduction in rate of infection with chemoprophylaxis (CTX)
 - CTX recommended in mismatch heart, heart-lung, liver transplant
 - If pentamidine is used for PJP CTX, will not cover toxoplasmosis
- Symptom onset typically 2 weeks-3 months post-transplant, include febrile myocarditis, pneumonitis and encephalitis, can progress to fatal outcomes
 - Severity linked to degree of immunosuppression
- Cranial MRI shows single or multiple contrast-enhancing lesions, CT chest may show ground glass opacities and marked peribronchovascular thickening with ground glass opacity
- Diagnosis: symptoms, serum PCR, microscopy
 - Antibody production variable due to immunosuppression
 - Microscopic evaluation of blood, tissue, bone marrow aspirates or bronchoalveolar lavage reveals tachyzoites
- First line treatment is pyrimethamine and sulfadiazine, with addition of leucovorin
 - Targets tachyzoite stage, not cyst



References

1. Derouin, Francis, H. Pelloux, and ESCMID Study Group on Clinical Parasitology. "Prevention of toxoplasmosis in transplant patients." *Clinical Microbiology and Infection* 14.12 (2008): 1089-1101.
2. Fishman, Jay A. "Infection in solid-organ transplant recipients." *New England Journal of Medicine* 357.25 (2007): 2601-2614.
3. Grossi, P. A., J. A. Fishman, and AST Infectious Disease Community of Practice. "Donor-derived infections in solid organ transplant recipients." *American Journal of Transplantation* 9 (2009): S19-S26.