Primary Care of the Liver Transplant Recipient

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KEYWORDS

- Primary care • Liver transplant • Recipient
- Immunosuppressant • Opportunistic infection
- Insulin resistance

A case: Mr F. O. is a 53-year-old man who presents to a family physician's office for a physical examination and to establish primary care service with a physician. He had a history of hepatitis C and alcohol-related liver cirrhosis and had undergone a liver transplantation 16 months before the visit. The patient had no specific complaints at the time of visit. He had a marked increase in liver enzymes 6 months before this visit and a liver biopsy showed changes of alcoholic and hepatitis C liver disease. He adamantly denied alcohol recidivism and liver enzymes normalized spontaneously. He takes a multivitamin and states that he feels more energy with multivitamins.

Review of systems was within normal limits.

Past medical history includes hypertension, obesity, left arm fracture.

Medications include tacrolimus (Prograf) 2 mg in the morning and 1 mg in the afternoon, mycophenolate mofetil (CellCept) 1 g twice a day.

Metoprolol 100 mg twice a day, amlodipine 10 mg daily.

Urosodiol 600 mg in the morning and 300 mg in the afternoon.

Social history: smokes tobacco (1 pack per day).

Alcohol in the past and status post cirrhosis and has not relapsed since the transplantation.

Physical examination: alert and oriented times 3, well nourished, blood pressure 136/88, body mass index 35. Pulse 76, respiration rate 18.Temperature 36.9°C (98.4°F). Eyes: non-icteric sclera, pupils equal, round, reactive to light and

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accommodation, extraocular muscles intact. Neck: no thyroidmegaly. Lungs: clear on auscultation and percussion. Heart: regular without murmur, point of maximal impulse non-displaced. Abdomen: soft, well-healed subcostal transverse scars. Legs: no pedal edema.

The patient was given instruction to continue his medications and to follow up in 3 months. The patient was also educated regarding smoking cessation.

He was seen by the psychiatry service a few months later. He was referred because of depression. He mentioned to the psychiatrist that he had onset of drinking alcohol at age 10 years. He stated that he had suffered physical abuse as a boy. He also had history of cocaine, intravenous heroine, and marijuana abuse. He mentioned that the last time he used alcohol or drugs was 6 years before the transplantation surgery. He still smokes. He was diagnosed with major depression and started on sertraline.

Liver transplantation outcomes have evolved significantly since the development of the surgical procedure in the 1960s. Survival after liver transplantation has improved significantly, with the 1-year survival rate more than 85%, and liver transplantation has become the treatment of choice for chronic liver failure, acute liver failure, and selected patients with early stage, unresectable hepatocellular carcinoma.[1] This improved survival was caused by the introduction of potent immunosuppression for the treatment and prevention of cellular rejection. However, potent immunosuppression has led to increased incidence and prevalence of immunosuppression-associated complications. Immunosuppression is a double-edged sword, with a need to carefully consider the risk/benefit ratio in titrating the doses for the optimal benefit of the liver transplant recipients. With an increasing number of long-term survivors, primary care physicians are expected to see larger numbers of these patients. This article provides a guideline for the care of liver transplant recipients in the office of primary care physicians. It is also important to have close communication and collaboration with the patient's transplantation center for optimal care.

ORGAN REJECTION

Late-onset Organ Rejection

Late-onset organ rejection of the liver transplant graft by the host immune system can be divided into acute and chronic rejection. Advances in immunosuppressive medications have allowed liver transplantation to move from a theory to a viable life-saving procedure by decreasing the risk of rejection. However, despite improvements in immunosuppression, patients still remain at risk of developing acute cellular rejection within 3 months of liver transplantation in up to 20% to 40% of cases.[2] These cases are eminently treatable with corticosteroid therapy, and long-term graft survival is not significantly impaired by these early cases of acute cellular rejection.[3]

By the time patients present for post follow-up to the primary care physician, they are usually at least 6 to 12 months after liver transplantation. The primary care physician needs to be able to recognize late-onset organ rejection and collaborate with the patient's transplant center to effectively manage these cases. Two major types of late-onset rejection exist: late acute cellular rejection and chronic rejection.

Late acute cellular rejection

Acute cellular rejection is a process characterized by inflammation of the liver graft caused by immunologic injury occurring as a consequence of immunologic disparities between the donor and recipient immune systems. Late acute rejection occurs in up to 10% to 20% of cases, and is a risk factor for the subsequent development of chronic rejection, which has an impact on long-term survival.[4]