

Esophageal Cancer In A Post-Liver Transplant Patient

S Nallapareddy, J Bagirathan, S Kamasani

Citation

S Nallapareddy, J Bagirathan, S Kamasani. *Esophageal Cancer In A Post-Liver Transplant Patient*. The Internet Journal of Gastroenterology. 2004 Volume 4 Number 1.

Abstract

A 40-year-old liver transplant patient presented with symptoms of esophagitis. He was initially managed conservatively, but esophagitis rapidly progressed to an ulcerated mass and adenocarcinoma in 4 weeks time period. Metastasis of the adenocarcinoma made him an unlikely candidate for surgery. This case report details the relation of esophageal cancer in a liver transplant patient and its rapid progression. It is suggested that Barrett's esophagitis is a premalignant condition developing in immunocompromised patients and needs to have a closer surveillance.

INTRODUCTION

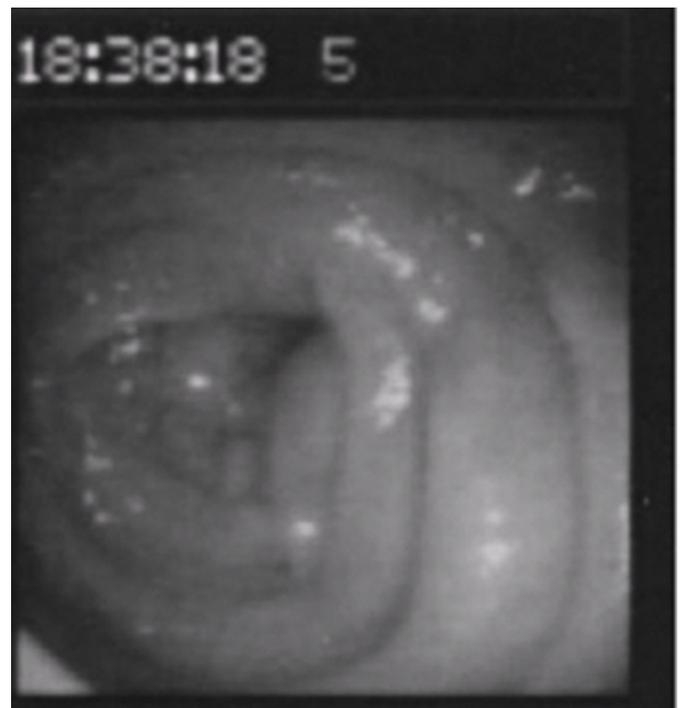
Increased risk of malignancies post liver transplantation has been previously reported ¹. Very few cases of de novo esophageal cancers have been reported. Here we report about a patient who developed rapidly progressive esophageal cancer while on immunosuppressive therapy after live related donor liver transplantation.

CASE REPORT

The patient is a 40-year-old white male who was diagnosed with hepatitis C associated liver cirrhosis. He underwent liver transplantation and was on tacrolimus for immunosuppression. The patient presented with symptoms of esophagitis one year after the liver transplant. Esophagoduodenoscopy (EGD) showed severe esophagitis. No masses or ulcers were noted. The patient was conservatively managed with proton pump inhibitors. He had persistent symptoms. Repeat EGD after 4 weeks showed a 2cm firm ulcerated mass in distal esophagus (Fig 1).

Figure 1

Figure 1: Endoscopic view of the initial Ulcer

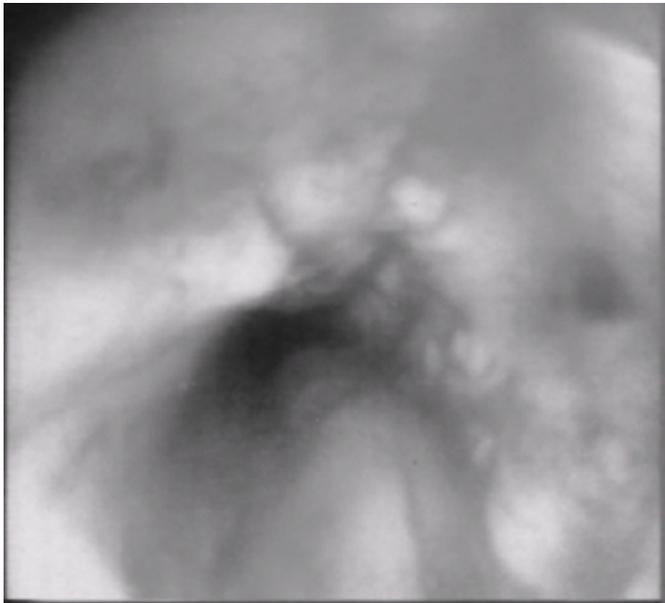


A biopsy showed poorly differentiated adenocarcinoma. CT scan of chest and abdomen, MRI scan of abdomen performed for staging revealed no metastasis. Surgical resection was planned and pre-surgical EGD done showed a new 2.5 cm lesion at cricopharyngeal level with moderate obstruction. The original lesion extended to span about 10cm of the esophagus with obstruction (Fig 2). Due to the development of a new lesion with rapid extension of the previously seen lesion, surgery was abandoned. Chemo-radiation therapy was initiated. 5-FU was given 200 mg/m²

as a continuous infusion during entire period of radiation. Patient's dysphagia to solid foods improved.

Figure 2

Figure 2: Endoscopic view of the adenocarcinoma of the esophagus extending upto 10 cm of the Esophagus



After about 6 months of time, the patient developed severe left shoulder pain. An X-ray showed a lytic lesion in the left humerus and a bone scan revealed metastasis. Palliative radiation to the metastatic area did not curtail the relentless progression, leading to a pathological fracture requiring excision of a portion of the tumor with prosthetic replacement. Follow-up CT scan showed new metastasis in the right liver lobe, spleen, retro peritoneum, omentum, abdominal wall with rapidly increasing bilateral pleural effusions. Skin involvement over the abdominal wall was also noted. Tacrolimus was adjusted to keep elastase within normal limits. Patient developed renal insufficiency leading to discontinuation of tacrolimus and cyclosporine was started. Due to worsening metastatic progression, he ultimately succumbed to the illness.

DISCUSSION

Malignancies are well known complications with solid organ transplantation. About 50% of tumors develop within two to three years post transplantation. Long-term immunosuppression has cumulative effect, as it has been showed that premalignant conditions progress to invasive cancers more often ². The total incidence of malignancies post liver transplantation is 3-15% although it may be higher in children undergoing transplantation ³. Esophageal cancer post transplantation is very rare being less than 1% but

progresses rapidly and patients have short survival with greater mortality ⁴. Relatively little has been published regarding gastrointestinal malignancies after liver transplantation. Most patients undergoing liver transplantation have screening EGD with treatment of varices if present. In patients with Barrett's esophagus, a premalignant condition, there are few case reports with esophageal cancer development post liver transplantation ⁵.

Factors leading to malignancies and rapid progression in transplant patients are:

1. Premalignant conditions like Barrett's esophagus, sclerosing cholangitis and ulcerative colitis.
2. Immunosuppressive agents like cyclosporine and tacrolimus used to avoid graft rejection impairs immune surveillance and provides a permissive environment for malignant growth precipitating accelerated growth and progression. Also, oncogene virus activation and antigenic stimulation contribute ⁶.
3. Exposures to oncoviruses like EBV at the time of transplant ⁶.

The patient reported here had no known previous history of Barrett's esophagus or it was missed during the screening. Rather he developed Barrett's esophagitis post transplantation with rapid progression to malignancy, making him not a suitable candidate for surgery, chemotherapy or radiation therapy. Surveillance for gastrointestinal malignancies is perhaps the most important long-term management issue for gastroenterologists. The clinical course of malignancies in liver transplant patients differs than in the general population ⁷. More vigilant surveillance for recipients with Barrett's esophagitis is recommended as they progress rapidly.

References

1. Tan-Shalaby J, Tempero M. Malignancies after liver transplantation: a comparative review. *Semin Liver Dis* 1995; 15(2):156-164.
2. Sanchez EQ, Marubashi S, Jung G et al. De novo tumors after liver transplantation a single institution experience. *Liver Transplantation* 2002 Mar;8(3) 285-91.
3. Catalina MV, de Diego A, Garcia-Sanchez A et al. Characterization of de novo malignancies in liver transplantation. *Gastroenterol Hepatol* 2003; 26(2):57-63.
4. James F Trotter, Cancer Surveillance following orthotopic liver transplantation. *Gastrointestinal Endoscopy Clinics of North America*-Volume 11, January 2001 pp-199-241.
5. Francis Yao, Jagbir Ahuja, Thomas Savides, Rapid progression of GE junction adenocarcinoma after liver

transplantation. Journal of Clinical gastroenterology
1997;24(1) 54-55.

6. Yoram Menachem, Rifaat Safadi, Yaffa Ashur, Yoran
Ilan. Malignancy after liver transplantation in Patients with
pre-malignant conditions . Journal of Clinical

Gastroenterology Volume 36(5) May/June 2003 pp 436-439.
7. Jain AB, Yee LD, Nalesnik et al. Comparative incidence
of de novo nonlymphoid malignancies after liver
transplantation under tacrolimus using surveillance
epidemiological end result data . Transplantation -1998 Nov
15; 66(9) 1193-200.

Author Information

Sujatha Nallapareddy, M.D.

Department Of Medicine, Roswell Park Cancer Institute

Janarthan Bagirathan, M.D.

Department Of Medicine, Roswell Park Cancer Institute

Sujana Kamasani, M.B.B.S.

Department Of Medicine, Roswell Park Cancer Institute