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ESOPHAGEAL COMPLICATIONS IN ORTHOTOPIC LIVER TRANSPLANT PATIENTS[1]

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Although serious esophageal complications are not uncommon after liver transplantation, these have received little attention in the literature (1). We report here the nature and treatment of major esophageal complications encountered in 7 (0.6%) of 1154 adult liver transplant recipients at the University of Pittsburgh between January 1, 1986 and March 31, 1990. Of 4 perforations of the distal esophagus (Table 1), 3 were thought in retrospect to have been caused by pretransplant sclerotherapy. The complication in 2 recipients was diagnosed one or 2 days posttransplantation, and in a third at the time of liver replacement. The fourth perforation was secondary to multiple hemostatic sutures placed during transplantation near the esophagogastric junction. Two patients had intractable esophageal bleeding from multiple ulcerations caused by cytomegalovirus and one patient with an Epstein-Barr virus infection developed an esophageal clonal B cell lymphoma.

The treatment for the 7 patients is summarized in Table 1. Three of the 4 patients with esophageal perforation died from 2 to 198 days after the diagnosis in spite of treatment with thoracic and/or transabdominal drainage, exclusion by temporary ligation of the lower esophagus, or an attempt at esophagectomy and colon interposition. The single survivor closed his perforation spontaneously after cervical esophagostomy and prolonged subdiaphragmatic drainage.

One of the 2 patients with massive bleeding survived after total esophagectomy and colon interposition 5 months later. The other died of multiple bacterial infections and disseminated tuberculosis 2 months after the hemorrhage was controlled with suture ligation of multiple bleeding sites through a longitudinal esophagostomy, cervical esophagostomy, tube gastrostomy, and temporary ligation of the esophagus at the esophagogastric junction. The patient with lymphoma had regression of the lesion when immunosuppression was reduced, but hepatic rejection followed, necessitating retransplantation. He then had a recurrence of the lesion that was treated with esophagogastrectomy. Five months later, the lymphoma recurred above the suture line, but this regressed after cyclosporine was stopped and treatment was started once—and subsequently twice—per week with the new immunosuppressive agent FK506 (2,3). He now is tumor-free almost 3 years after the first liver transplantation, 18 months after retransplantation and 8 months after the change in immunosuppression.

An obvious conclusion from these observations is that major esophageal complications in the transplant population have a very high morbidity and mortality. Aside from the added burden

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of immunosuppression, liver transplant patients are particularly vulnerable because of their general disability from liver failure, the frequent involvement of the esophagus secondary to liver disease, and the consequent high rate of endoscopy in the days or weeks preceding transplantation. Furthermore, it is obvious that pretransplantation sclerotherapy for both treatment of bleeding esophageal varices and prophylaxis does carry a certain risk of perforation of the esophagus (4,5), which may not be diagnosed, as in 2 of our patients, until after transplantation. After sclerotherapy, a high degree of suspicion is necessary in order to rapidly diagnose any possible perforation. When sepsis or bleeding were controlled with effective drainage or esophagectomy, later reconstruction and esophageal replacement was possible in one case. In another patient with esophageal lymphoma, a radical esophagogastrectomy and primary reconstruction were performed without incident.

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TABLE 1

University of Pittsburgh results[a]

	Age	Diagnosis	OLTX date	Complication diagnosis day		Treatment	Hospital stay (days)	Outcome
X.N.	31	CAH-B	6/4/88, 6/9/88	Perf.	6/2/88	ex., ces., gs.	64	D
G.J.	53	CAH-B	2/2/89	Perf.	2/20/89	ee., ces., gs.	19	D
R.A.	38	CAH-B	3/30/89	Perf.	4/6/89	1 ex., ces., js., 2 ci.	198	D
H.R.	33	SBC	3/5/90 (also gastrectomy)	Perf.	3/12/90	ces.	133	A
S.B.	53	CC	9/26/88	Bleed	11/3/88	1 esl., 2 ex., gs.	99	D
M.A.	64	PBC	3/13/89	Bleed	4/7/89	1 ee., ces., 2 ci.	185	A
B.J.	34	CAH-C	1/10/86,6/19/88	LPD	3/10/88	ege.	18	A

[a]CAH, chronic active hepatitis due to B (-B) or C (-C) virus; PBC, primary biliary cirrhosis; SBC, secondary biliary cirrhosis; CC, cryptogenic cirrhosis; ex., exclusion; ces., cervical esophagostomy; gs., gastrostomy; ee., esophagectomy; js., jejunostomy; cl., colon interposition; esl., esophagectomy with suture ligation; ege., esophagogastrectomy; Perf., perforation; LPD, lymphoproliferative disorder (B cell lymphoma).