Transplant Int (1992) 5 [Suppl 1]: S215–S216

TRANSPLANT
International

Liver transplantation for small HCC in cirrhosis

F. Romani, C. V. Sansalone, P. Rimoldi, G. Rondinara, L. de Carlis, L. S. Belli, F. Riolo, V. Pitotta and L. Belli

Department of Surgery and Transplantation Unit Pizzamiglio II, Niguarda Hospital, Milan, Italy

Segmental liver resection is generally considered the treatment of choice for small HCC in cirrhotic livers. Although in selected patients with small encapsulated nodules and low alpha-fetoprotein levels long-term survival can be expected after resection [4], Western experience is still limited, and follow-up studies too short so that the data presently available cannot be considered satisfactory [3].

The true value of alcoholization as a possible alternative therapy in these patients is still to be ascertained. When using these treatment modalities, the major problem is the high tumour recurrence within the liver [1, 6]. Three main reasons could explain these clinical observations:

1. inadequate resection of the original tumor;
2. unrecognized multifocal HCC;
3. newly generated tumours in the remnant cirrhotic parenchyma.

The rationale for liver transplantation is the oncological accuracy of the ablation of the liver, and the possibility of a simultaneous cure of the associated cirrhosis [2].

In our programme of liver transplantation, begun in 1985, we accepted as an indication small HCC in cirrhotic livers. We present here our initial experience with 19 cases.

Key words: Liver transplantation – Liver cirrhosis

Materials and methods

From January 1985 to September 1991, 121 patients received liver homografts at our centre for various end-stage liver diseases. In 22 cases the indication was small HCC complicating cirrhosis. Here we consider only 19 patients with a follow-up greater than 6 months.

Offprint requests to: Federico Romani, M. D., Department of Surgery Pizzamiglio II, Niguarda Hospital, 20162 Milan, Italy

All patients were asymptomatic and the tumours were occasionally detected by serial US scans and alpha-fetoprotein determinations. The aetiology of the cirrhosis was alcoholic in two patients and post-hepatitic in 17 patients. Six patients were HBV-positive at the time of transplantation.

According to the Child's classification of liver disease, six patients were Child A, ten patients Child B and three patients Child C. High alpha-fetoprotein levels were found only in three cases. A complementary treatment with chemioembolization was carried out in two patients while on the waiting list.

All cases received homografts according to standard techniques and all organs were harvested using UW solution. The characteristics of the cancer involvement were assessed using serial specimens of whole organs.

Results

As a consequence of careful examination of the removed liver 14 patients were found to have a single lesion while five had multiple lesions (ranging from two to four nodules). The extent of cancer involvement was underestimated in nearly 20% of our patients if compared to the preoperative assessment. Tumour sizes were less than 3 cm in diameter in 13 cases and between 3 and 5 cm in six patients (Table 1).

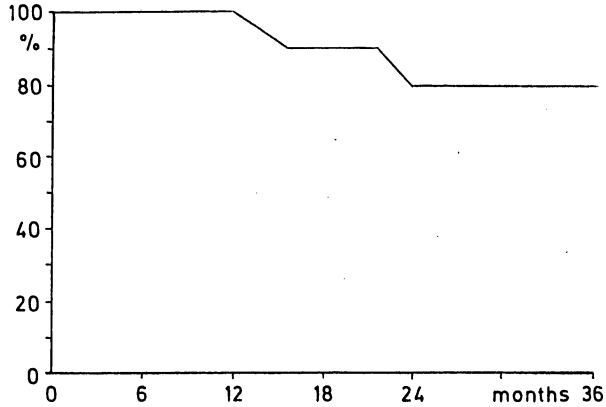

Fig. 1. Actuarial survival curve of 18 cases with small HCC nodules complicating cirrhosis

Table 1. Indications for liver transplantation in 19 patients with small HCC in cirrhosis, with a follow-up period of 6–53 months

	Tumour diameter (cm)		Number of lesions		Child's classification			Alpha-fetoprotein	
	< 3	3–5	Single	Multiple (2–4)	A	B	C	Normal	> 10 mg
Number of patients	13	6	14	5	3	13	3	15	4

One patient died 7 days postoperatively due to PGNF, accounting for an in-hospital mortality rate of 5%. Two patients died of tumour recurrence 12 to 20 months after transplantation. The remaining 16 patients were currently still alive with no overt recurrence during a follow-up between 6 and 53 months. The actuarial survival rate at 3 years was about 80% (Fig. 1).

Discussion

Our promising results in terms of control of tumour recurrence and 3-year survival rates do not match with data from previously reported series [5, 7, 8]. However, this should not be a surprise because at the beginning liver transplantation was performed for large, unresectable tumours, probably in a more advanced stage compared to our cases.

We are convinced that the proper treatment for the patient with a small hepatocellular carcinoma in a cirrhotic liver must be selected from among transplantation, segmental resection and alcoholization. For patients in Child B an C classes, liver transplantation is surely the proper treatment. Still questionable remains the choice for patients with better liver function. Several issues are against liver transplantation: shortage of liver donors; time spent on waiting list; mortality and morbidity still greater than other procedures; and risk of virus recurrence in HBV-positive patients.

Nevertheless, oncological accuracy and the parallel possibility of cure of the cirrhosis strongly recommend liver transplantation. Unfortunately, data collected so far come from diffferent groups of patients not comparable with one another. We therefore consider justified a prospective controlled trial to clearly determine the survival, quality of life and recurrence with all three procedures.

References

1. Belghiti J, Panis Y, Farges O, et al. (1991) Intrahepatic recurrence after resection of hepatocellular carcinoma complicating cirrhosis. Ann Surg 214: 114–117
2. Belli L, Romani F, Belli LS, et al. (1989) Reappraisal of surgical treatment of small hepatocellular carcinoma in cirrhosis: clinico pathological study of resection or transplantation. Dig Dis Sci 34: 1571–1575
3. Bismuth H, Houssin D, Ornowski J, Meriggi F (1986) Liver resection in cirrhotic patients: a Western experience. World J Surg 10 S
4. Franco D, Capusotti L, Smadja C, et al. (1990) Resection of hepatocellular carcinomas: results in 72 European patients with cirrhosis. Gastroenterology 98: 733–738
5. Iwatsuki S, Starzl TE, Todo S, Gordon RD, et al. (1988) Experience in 1000 liver transplants under cyclosporine-steroid therapy: a survival report. Transplant Proc S 1: 498–504
6. Matsumata T, Kanematsu T, Takenaka K (1989) Patterns of intrahepatic recurrence after curative resection of hepatocellular carcinoma. Hepatology 9: 457–460
7. O'Gray JG, Polson RJ, Rolles K, et al. (1988) Liver transplantation for malignant disease. Ann Surg 207: 373–379
8. Ringe B, Wittekind C, Bechstein WO (1989) The role of liver transplantation in hepatobiliary malignancy. Ann Surg 209: 88–89