Liver Transplantation for Peripheral Cholangiocarcinoma: Spanish Experience


ABSTRACT

Introduction. Palliative treatment for nondisseminated unresectable peripheral cholangiocarcinoma (PCC) carries a 0% 5-year survival rate. The role of orthotopic liver transplantation (OLT) in these patients is controversial because the survival rate is lower than with other indications for transplantation and the lack of available donor organs. The aim of this paper was to review the Spanish experience in OLT for PCC to identify prognostic factors for survival.

Methods. We retrospectively reviewed 23 patients undergoing OLT in Spain for PCC over a period of 13 years.

Results. The actuarial survival rates were 77%, 65%, and 42% at 1, 3, and 5 years, respectively. The main cause of death was tumor recurrence (35%). Prognostic factors for an adverse outcome were pTNM classification \((P < .05)\) in the univariate analysis and perineural invasion \((P < .05)\) and stages III or IVA \((P < .05)\) in the multivariate analysis.

Conclusions. OLT for nondisseminated irresectable PCC displays higher survival rates at 3 and 5 years than palliative treatments, especially for tumors in the initial stages, which means that more information is needed to help better select PCC patients for transplantation.
preoperative diagnosis of hepatocarcinoma, which was confirmed as PCC by histology. In the remaining 9 patients with a preoperative diagnosis of PCC, the preoperative examinations suggested an unresectable tumor without evidence of extrahepatic disease. One diabetic patient had a pancreas transplant associated with the OLT. In the definitive staging after OLT 57% of the patients were stages I or II and the rest stages III or IVA.

Statistical Method
A questionnaire was sent to all OLT units. From the results obtained, the actuarial survival curves were subjected to Kaplan-Meier analysis with comparisons for survival by the Breslow and Mantel tests. We also performed a univariate analysis of prognostic factors using the chi-square test and multivariate analysis with Cox’s regression model. \( P < .05 \) was considered statistically significant.

RESULTS
Eight patients (35%) developed tumor recurrences. The most common site of recurrence was the abdominal cavity (\( n = 5 \)), followed by pulmonary metastases (\( n = 2 \)), and multiple metastases (\( n = 1 \)). The mean time between OLT and recurrence was 22 months (range, 5–75). The mean time between recurrence and death was 6.6 months (range, 1–13). Eleven patients died (48%). 7 due to tumor recurrence (30%) and the other 4 (18%), non-tumor-related causes. The actuarial survival rates at 1, 3, 5, and 10 years, were 77%, 65%, 42%, and 23%. The disease-free survivals were 68%, 45%, 27%, and 23%, respectively. In the univariate analysis the pTNM classification showed statistical significance (\( P < .05 \)), with stages I or II demonstrating better survival rates at 3 and 5 years (80% and 40%, respectively) than stages III or IVA (46% and 31%, respectively). In the multivariate analysis, significant factors were perineural invasion (\( P < .05 \)) and stages III or IVA (\( P < .05 \)).

DISCUSSION
Madariaga et al. published higher 5-year survival rates for liver resection in PCC than hilar cholangiocarcinoma (HCC) (8% with HCC versus 38% with PCC). The survival rate with OLT ranges from 16% to 42% in most series. In our series, the 5-year survival rate for PCC was higher (42%) than for HCC (30%). Early detection of incidental PCC among patients with PSC would improve the results of OLT. Incidental PCC, as happens with incidental hepatocarcinoma, was thought to have a better prognosis but, in some series the survival rate with incidental PCC was similar to PCC diagnosed preoperatively, as occurred in our series.

As for prognostic factors, it must be noted that lymph node invasion, although not statistically significant, was associated with a worse survival rate. Perineural invasion and pTNM classification were significant in the multivariate analysis. We consider the survival rate acceptable, because we are dealing with nonselected patients who have been considered unresectable and in whom palliative treatments are ineffective. In short, our results confirm that OLT achieves higher survival rates than palliative treatments for patients with unresectable PCC without evidence of tumor spread. However, considering the lack of organs and the possibility that the disease might change while on the waiting list, the indication for OLT in these patients could be questioned from an ethical point of view. Living donor liver transplantation might be a valid alternative. Further, information is needed to better select PCC patients who can really benefit from OLT.

REFERENCES