Concepts in Local Therapy For Liver Cancer

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Throughout the world, hepatic malignancies are rapidly becoming more abundant. Hepatocellular carcinoma(HCC) is responsible for more than 1 million deaths yearly and will undoubtedly continue to rise due to the increasing prevalence of hepatitis C, which in the U.S. is approximately 4 million. Metastatic disease to the liver represents an even larger population, with over 150,000 new cases of colorectal cancer occurring in the U.S. per year and 20% of which will develop liver metastases early in the disease. Despite the bleak picture painted by these figures, a significant survival advantage may be offered to patients with primary and secondary hepatic malignancies, particularly when the disease is localized to the liver. The purpose of this presentation is to review the current treatment modalities available for both HCC and metastatic tumors to the liver and assess the impact on patient survival, procedural mortality and morbidity, and natural history(or outcomes with systemic therapy alone). Attention will be directed to surgical resection, percutaneous and intraoperative tumor ablation with alcohol/acetic acid, thermal techniques, and cryoablation, and transarterial chemoembolization. Other modalities, such as hepatic artery infusion, systemic chemotherapy, gene therapy, immunotherapy, and hormonal therapy will not be discussed, but may play a role in combination with local techniques for the future. The following table reviews outcomes of local therapies:

Investigator	Pt number / Technique	Tumor type	Mortality	Survival (actuarial %)		
				1 yr	3 yr	5 yr
Fong 1999	154 / resects	HCC	4.5%	81%	54%	37%
	143/ablation			56%	21%	7%
Livraghi 1995	210 / Perc Alc Ablatn	HCC (<5cm)	----	88%	47%	33%
Curley 1999	123 / RFA	HCC + mets	0%	2.4% complics	1.8% loc recur	27% met recur
Korpan 1997	Cryosurgery	Mets	0%		60%	44%
	Resection		6%		51%	36%
Fong 1999	1001/resects	Colorect mets	2.8%	89%	57%	37%
Natl Hx / Chemotx		HCC + mets		44%	0%	0%

There is a wide discrepancy in the reported results from chemoembolization for both primary and metastatic lesions, but it appears to play a significant role as an adjuvant to other treatments, such as resection and transplantation. Perhaps, in conjunction with percutaneous ablation, as well. It is clear that well constructed, randomized multi-center trials need to be conducted to best define the roles of many new local therapies for liver malignancies, perhaps combined modality therapies may be the best. In conclusion, aggressive local therapy for both primary and metastatic disease to the liver can achieve major survival advantages and should always be considered for standard of care today.