Percutaneous ethanol injection therapy as a treatment for hepatic cancer

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Record Status
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Authors' objectives
Hepatocellular carcinoma (HCC) is increasingly detected following widespread sonographic screening of high risk patients, especially those with liver cirrhosis and chronic viral hepatitis. Although it occurs less frequently in Northern and Western Europe and in North America than in other parts of the world, in the last 15 years the incidence of HCC has been increasing steadily in the United States. It has been suggested that this incidence will continue to grow in the United States since a significant portion of the immigrant population comes from areas of the world where HCC is endemic. In Canada, the incidence of HCC and associated mortality rates are likely to increase because of the high prevalence of hepatitis C and the large increase in the number of hepatitis B carriers caused by immigration from areas where the virus is common. The treatment of choice for a small percentage of patients with localized disease is hepatic resection (HR). A large number of patients with HCC are not operable because of various factors. According to the United States National Cancer Institute’s PDQ database there is no standard therapy for localized unresectable HCC. Among the newer techniques which are currently under clinical evaluation, percutaneous ethanol injection therapy (PEIT) has been identified as a method to treat patients with HCC and cirrhosis in whom resection is unsafe.

Treatment of hepatic metastasis (HM) varies with the underlying disease, extent of metastatic disease in the liver and in other sites, and availability of effective systemic therapy. According to PDQ the standard treatment for colorectal HM is hepatic resection. However, relatively few patients are candidates for surgery. For other patients many systemic and regional therapies have been tried including PEIT. PEIT has emerged as a treatment for hepatic cancers, especially in patients with poor hepatic function, who are not candidates for surgery. It has been performed, mostly in Asia and in some European countries, as a treatment for hepatic cancers with both curative and palliative intent. To date, reported experience with PEIT has focused mainly on the treatment of HCC and little information is available regarding its use as a treatment for HM.

Authors' conclusions
PEIT has not been evaluated in well-designed prospective controlled trials. The quality of the available evidence is limited in some respects and does not allow an adequate evaluation of its therapeutic effect. The low treatment-related morbidity and mortality, the ability to spare functioning liver tissue, the easy feasibility of repeated treatment for recurrences and the low cost of the treatment makes PEIT an attractive method to treat small hepatic tumors in patients who do not respond to or who are not candidates for conventional therapy. The limited available evidence suggests that carefully selected patients with HCC may benefit from PEIT. In the reviewed literature, most investigators proposed it as a treatment of choice for patients with small and few lesions recruited by US screening, who are not candidates for surgery. However, there is still little comparative information on long-term outcomes. There is limited experience with the use of PEIT as a treatment for HM and its role for this indication is yet to be determined. According to the reviewed evidence, PEIT does not appear to be an effective treatment for HM. Long-term, well designed prospective controlled clinical trials of sufficient power are needed to establish the benefit of PEIT as a treatment for hepatic cancer.

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