

Impact of high-dose melphalan (MEL) administered via hepatic arterial infusion for patients with unresectable hepatic metastases (LM) from ocular melanoma (OM).

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[Translational research](#)

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Abstract:

Introduction: OM has an annual incidence of 3,500 to 4,000 pts/yr, with LM accounting for the sole or dominant site of metastases in over 80% of patients. For patients with LM, median survival is reported to be 2 to 7 months. We present results utilizing high-dose

MEL via two generations of hepatic arterial infusion and extracorporeal perfusion for patients with unresectable HM from OM. **Methods:** Between 10/1994 and 7/2007, 80 patients with unresectable OM LM underwent isolated hepatic perfusion (IHP) with MEL (1-2 mg/kg, n=66) or percutaneous hepatic perfusion (PHP) with Mel (1.5-3.5 mg/kg, n=20). IHP included hepatic isolation at laparotomy with inflow via a cannula in the gastroduodenal artery and outflow via a cannula in the isolated retrohepatic vena cava (IVC). PHP consisted of a 30 minute hepatic artery infusion of melphalan via a percutaneously placed catheter with hepatic venous hemofiltration using a double balloon catheter (Delcath Systems, Inc.) positioned in the retrohepatic IVC and an activated charcoal filter with subsequent return to the systemic circulation. Patients were followed for toxicity, radiographic response (WHO criteria), and hepatic progression-free (HPFS) and overall survival (OS). HPFS and OS probabilities were calculated by Kaplan-Meier. **Results:** There were 41 males and 39 females (mean age: 50 yr [range: 21-76]) with unresectable OM LM (median # metastases: 26 [range: 3-50]; median % liver replaced by tumor: 22). There were 3 operative/treatment mortalities, all patients treated with IHP (4.5%). There were 43 responses in 80 evaluable pts (54%). For the 62 pts with evidence of treatment effect (minor, partial, or complete response), HPFS was 12 months (range: 3-84). Median OS was 12 months and 2-yr survival was 25%. Repeat perfusion (all PHP) was performed in 5 pts, with a 100% response rate. **Conclusions:** IHP and PHP with MEL results in marked tumor regression and prolonged HPFS and OS in patients with high hepatic tumor burden from metastatic OM. PHP appears to allow effective retreatment for patients with hepatic recurrence after previous successful therapy.