

BC Cancer Protocol Summary of Yttrium-90 for Transarterial Radioembolisation (TARE) for Hepatocellular Cancer or Neuroendocrine Tumours with Hepatic Disease

Protocol Code

UGIYTT

Tumour Group

Gastrointestinal

Contact Physician

Dr. Dave Liu

Dr. Theresa Chan

ELIGIBILITY:

Suitability for Yttrium-90 TARE therapy will be established via consultation with Intervention Radiology at accredited sites (institutions that have completed and maintained the proctoring or qualification for administration of Y-90) in accordance with the following eligibility criteria:

- Hepatocellular cancer (HCC)
 - HCC with portal venous invasion
 - HCC with T3 tumours, potentially amenable to downstage for liver transplantation or resection
 - HCC outside of thermal ablation criteria (≤ 3 lesions, each ≤ 3 cm and/or anatomically inaccessible) or surgical resection criteria (based on comorbidities, location in the liver, and hepatic anatomy) or stereotactic ablative radiotherapy (SABR) criteria as per liver tumour rounds discussion
 - HCC meeting Up-to-7 criteria (up to 7 lesions with a total of 7 cm in diameter)
 - HCC exceeding Up-to-7 criteria in patients that cannot tolerate systemic therapy or have demonstrated non-response in the setting of liver only disease, Childs Pugh score less than 7, and adequate hepatic reserve
- Metastatic neuroendocrine tumours (NETs) with liver dominant disease with low volume extra-hepatic disease
- Review at a multidisciplinary conference with representatives of Medical Oncology, Radiation Oncology, Interventional Radiology, Hepatology and Hepatobiliary surgery with documentation of minuted discussion that Yttrium-90 is appropriate
- A BC Cancer Compassionate Access Program (CAP) request with appropriate clinical information for each patient must be approved prior to treatment

All patients should have:

- Definable disease burden by imaging criteria
- Mesenteric vascular anatomy amenable to TARE

EXCLUSIONS:

- Presence of ascites or encephalopathy
- HCC with infiltrative disease greater than 50% or Childs Pugh score greater than 8 (late B)
- HCC with extrahepatic disease
- NETs with life-limiting extrahepatic disease
- Life expectancy less than 3 months
- Compromised hepatic function consisting of Total Bilirubin greater than 2.5 x ULN, hypoalbuminemia less than 3.0 g/dL, AST, ALT or ALP greater than 5 x ULN

TREATMENT:**Prescribing**

- Written directive for prescribed dose (radioactivity) from Nuclear Medicine physician in conjunction with Interventional Radiology

Delivery of treatment

- Treatment must be performed in the angiography suite

Call the GI Systemic Therapy physician at your regional cancer centre or the GI Systemic Therapy Chair Dr. Theresa Chan at (604) 877-6000 or 1-800-670-3322 with any problems or questions regarding this treatment program.

References:

1. Sangro B, Salem R, Kennedy A, et al. Radioembolization for hepatocellular carcinoma: a review of the evidence and treatment recommendations. *Am J Clin Oncol* 2011;34(4):422-31.
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3. Iñarrairaegui M, Thurston KG, Bilbao JI, et al. Radioembolization with use of yttrium-90 resin microspheres in patients with hepatocellular carcinoma and portal vein thrombosis. *J Vasc Interv Radiol* 2010;21(8):1205-12.
4. Lewandowski RJ, Kulik LM, Riaz A, et al. A comparative analysis of transarterial downstaging for hepatocellular carcinoma: chemoembolization versus radioembolization. *Am J Transplant* 2009;9(8):1920-8.
5. Liu DM, Kennedy A, Turner D, et al. Minimally invasive techniques in management of hepatic neuroendocrine metastatic disease. *Am J Clin Oncol* 2009;32(2):200-15.
6. Kennedy AS, Dezarn WA, McNeillie P, et al. Radioembolization for unresectable neuroendocrine hepatic metastases using resin 90Y-microspheres: early results in 148 patients. *Am J Clin Oncol* 2008;31(3):271-9.
7. Rhee TK, Lewandowski RJ, Liu DM, et al. 90Y Radioembolization for metastatic neuroendocrine liver tumors: preliminary results from a multi-institutional experience. *Ann Surg* 2008;247(6):1029-35.