

# Treatment of Non-Colorectal Liver Metastases

Andrea Frilling<sup>a</sup> Matthias Ebert<sup>b</sup>

<sup>a</sup>Department of Surgery and Cancer, Imperial College London, London, UK,

<sup>b</sup>Department of Medicine II, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany

The treatment of liver metastases is generally considered as a palliative approach. A large body of literature refers to experience gained in colorectal liver metastases encompassing a panel of treatment options including surgery, chemotherapy, and various interventional locoregional procedures, either as an isolated measure or embedded within a multimodal treatment pathway. Surgery remains the cornerstone in this setting with an overall 5-year survival of 60–70% as a benchmark [1]. Comparable results are attainable in the treatment of patients with neuroendocrine liver metastases. However, only a small proportion of these patients are suitable candidates for hepatic resection, the effectiveness of which is hindered by high recurrence rates [2]. There is limited robust data referring explicitly to the management of non-colorectal, non-neuroendocrine liver metastases. Most of the reports refer to smaller, retrospective case series with poorly defined inclusion criteria, heterogeneous patient cohorts and tumour stages, scarce information on treatment carried out during the patient journey, and poor quality of treatment outcome reporting. In two recent systematic reviews on liver resection for non-colorectal, non-neuroendocrine liver metastases and Yttrium-90 selective internal radiation therapy (SIRT) in the same patient population, respectively, the primary tumour site was identified as the most important predictor of outcome [3, 4]. Patients with liver metastases from testicular, ovarian, and renal cell carcinoma, sarcoma, or those with isolated hepatic metastases of breast cancer seem to experience a survival benefit

from hepatic resection, particularly when surgery is combined with systemic treatment. In contrast, patients with hepatic metastases from lung or neck and head cancers only derive marginal benefit from liver resection. For Yttrium-90 SIRT, promising results are reported for breast cancer, ocular and cutaneous melanoma, renal cell carcinoma, and pancreatic cancer. Results of chemotherapy refer in most instances globally to patients in metastasised stages lacking specification of the treatment effect on liver metastases.

Patient selection is the Achilles' heel of outcomes, and uniform selection criteria for treatment for each of these primaries are yet to be elucidated [5]. In order to move away from anecdotal reports towards more evidence-driven strategies, registries for non-conventional liver metastases and standardised reporting should be encouraged. Collection of biosamples along the patient journey may facilitate identification of novel molecular-based biomarkers predictive for prognosis and response to treatment.

The aim of this issue of VISZERALMEDIZIN is to give the readership an overview on present management strategies for liver metastases originating from non-colorectal, non-neuroendocrine primaries. As the role of personalised medicine in oncology is steadily evolving, we hypothesise that in the future a one-for-one, in contrast to the present one-for-all, treatment concept will have a beneficial impact on the outcome of treatment of patients with non-conventional liver secondaries.

## References

- Adam R, De Gramont A, Figueras J, Guthrie A, Kokudo N, Kunstlinger F, Loyer E, Poston G, Rougier P, Rubbia-Brandt L, Sobrero A, Tabernero J, Teh C, Van Cutsem E; Jean-Nicolas Vauthey of the EGOSLIM (Expert Group on OncoSurgery management of Liver Metastases) group: The oncosurgery approach to managing liver metastases from colorectal cancer: a multidisciplinary international consensus. *Oncologist* 2012; 17:1225–1239.
- Frilling A, Modlin IM, Kidd M, Russell C, Breitenstein S, Salem R, Kwekkeboom D, Lau WY, Klersy C, Vilagrain V, Davidson B, Siegler M, Caplin M, Solcia E, Schilsky R; Working Group on Neuroendocrine Liver Metastases: Recommendations for management of patients with neuroendocrine liver metastases. *Lancet Oncol* 2014;15:8–21.
- Fitzgerald TL, Brinkley J, Banks S, Vohra N, Englert ZP, Zervos EE: The benefits of liver resection for non-colorectal, non-neuroendocrine liver metastases: a systematic review. *Langenbecks Arch Surg* 2014;399:989–1000.
- Kuei A, Saab S, Cho SK, Kee ST, Lee EW: Effects of Yttrium-90 selective internal radiation therapy on non-conventional liver tumors. *World J Gastroenterol* 2015;21:8271–8283.
- Martel G, Hawel J, Rekman J, Croome KP, Bertens K, Balaa FK, Hernandez-Alejandro R: Liver resection for non-colorectal, non-carcinoid, non-sarcoma metastases: a multicenter study. *PLoS One* 2015;10:e0120569.