

Chemoembolization for unresectable
liver metastases according to the
primary origin and chemoperfusion for
advanced pancreatic cancer

English summary

Une production de l'Institut national
d'excellence en santé
et en services sociaux (INESSS)

This is the English summary of the guidance entitled Chimioembolisation des métastases hépatiques non résécables selon l'origine primaire et chimio perfusion du cancer pancréatique avancé published in May 2017.

The complete version of this guidance (in French) is available on the website of INESSS in the *Publications* section.

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SUMMARY

Background

The presence of liver metastases is a poor prognostic factor in cancer survival. Several types of cancer can metastasize to the liver. For some of them (mainly colorectal cancer and neuroendocrine tumours), curative resection is indicated if the metastases are resectable with negative margins. For most other tumour sites, or when the metastases are not resectable, palliative treatment is proposed.

Embolization therapy can be considered for certain types of cancer. Embolization is performed by introducing solid particles into the artery irrigating a tumour or a region of the liver. This procedure can be performed in combination with the release of chemotherapeutic agents (chemoembolization) or with beads that permit the slow elution of chemotherapeutic agents (drug-eluting bead transarterial chemoembolization, or DEB-TACE). Radioactive microspheres can be used as well (radioembolization). A laser ablation technique, which is not available in Québec, is another option in other countries. Some studies tend to suggest that chemoembolization treatments might be beneficial in the treatment of liver metastases from colorectal cancer, neuroendocrine tumors or cancers of various other origins. In Québec, the use of chemoembolization has been recommended as the standard of care for the palliative treatment of hepatocellular carcinoma. However, liver metastases are not a recognized indication for palliative treatment with chemoembolization. Therefore, given that there is no indication for this type of treatment in Québec, patients seek, at their own expense, chemoembolization outside the country, specifically, in Germany, for the treatment of unresectable liver metastases. As well, some patients have reportedly received chemoperfusion treatments for advanced pancreatic cancer.

Requests have been made to the MSSS to make this treatment available, even if its efficacy and safety are the subject of debate. Therefore, the Direction générale de cancérologie asked the Unité d'évaluation en cancérologie of the Institut national d'excellence en santé et en services sociaux to evaluate the efficacy and safety of chemoembolization therapy for unresectable liver metastases of colorectal, neuroendocrine and other origins, and those of chemoperfusion for advanced pancreatic cancer in a palliative care context.

Method

We conducted a search in the PubMed, Embase and Cochrane Library databases. Publications had to concern the efficacy and safety of the therapies of interest in the diseases in question in comparison with systemic chemotherapy. More specifically, the efficacy endpoints were overall survival, tumour progression-free survival and tumour response rate, while the safety endpoints were treatment-related complications, symptomatic relief, quality of life, and the number of treatment-related deaths.

Results

The efficacy of chemoembolization in patients with unresectable colorectal liver metastases has not been demonstrated. Two randomized trials on this topic were identified. One found that chemoembolization conferred a significant benefit in terms of overall survival and progression-free survival. The other did not observe a significant difference with regard to progression-free survival [Martin et al., 2015; Fiorentini et al., 2012]. No comparative study of chemoembolization for unresectable neuroendocrine liver metastases was identified. The survival and tumour response results vary from one observational study to another, so no conclusions can be provided. Despite the weakness of the scientific evidence reported in the literature, certain expert organizations consider chemoembolization for the palliative treatment of neuroendocrine liver metastases (e.g., carcinoid syndrome) in patients in whom surgery is not an option. On the other hand, comparative studies do not show any advantage in choosing chemoembolization over transarterial embolization without chemotherapeutic agents for the treatment of neuroendocrine liver metastases [Pericleous et al., 2016; Fiore et al., 2014].

The results of a few comparative studies suggest that chemoembolization offers an advantage over chemotherapy in terms of the survival rate and the duration of survival in the context of liver metastases of various origins. However, because of the small number of studies and the absence of statistical values, it cannot be concluded that chemoembolization offers an advantage over the therapies currently in use.

Overall, the literature reports the occurrence – regardless of the origin of unresectable liver metastases – of a postembolization syndrome characterized by nausea, vomiting and fatigue. This syndrome was generally well tolerated by patients and was not a source of major complications. A low mortality rate after chemoembolization for liver metastases of colorectal, neuroendocrine, thyroid and gastrointestinal origin has been reported.

Because of the absence of comparisons, the studies methodological heterogeneity, and the different contexts, the results cannot be integrated. Several factors, which varied from study to study, influenced survival and the treatment's efficacy. Patient characteristics, such as liver tumour volume, the presence of extrahepatic metastases, and the differential expression of certain oncogenes, contributed to the variability of the results. Methodological factors, such as the chemotherapeutic agent used, the dosage, the number of chemoembolization procedures per patient, and previous treatments, were also a source of variability.

Despite the results suggesting that chemoembolization can be used as palliative therapy in patients who are refractory to systemic chemotherapy, the therapeutic value of chemoembolization cannot be recognized on the basis of the currently available scientific evidence. Embolization or chemoembolization treatments for metastases from neuroendocrine tumours are mentioned in certain practice guidelines, despite the low level of evidence. The impact of chemoembolization on patient survival and the complications should be evaluated in large, randomized comparative studies.

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