



## Executive summary

### Radiofrequency ablation for the treatment of liver tumours

(Adapted from the report of the Review Group by Ms L. Sutherland)

#### Background

The aim of this review was to compare the safety and efficacy of radiofrequency ablation for primary hepatocellular carcinoma or metastatic colorectal liver carcinoma, in comparison to other surgical and non-surgical therapeutic techniques, on the basis of a systematic assessment of the literature. The surgical comparative techniques included resection or hepatic artery infusion chemotherapy. The non-surgical comparative interventions included local ablative therapies such as percutaneous ethanol injection (PEI); cryotherapy; or procedures that produce local heat such as microwave coagulation therapy (MCT) or laser-induced thermotherapy (LITT).

#### Methods

*Search strategy* – Studies were identified by searching MEDLINE, PREMEDLINE, PREMEDLINE and MEDLINE, EMBASE, Current Contents, Cochrane Library, Science Citation Index, from inception to week 18 2002. Clinical Trials Database (US), NHS Centre for Research and Dissemination (UK), NHS Health Technology Assessment (UK), National Research Register (UK), EORTC Protocols Database, National of Institute Health (US) and CancerLit (US) were searched on 18/4/2002. This was supplemented by hand-searching recent conference proceedings from specialist societies and conducting internet searches. Additional articles were identified through the reference sections of the studies retrieved.

*Study selection* – Randomised controlled trials, quasi-randomised controlled trials and non-randomised comparative studies assessing patients treated with RFA and either one or more other comparative intervention/s were included for review. Patient safety outcomes for radiofrequency ablation were assessed in terms of common end-points reported for surgical treatment or non-surgical ablative treatments, which included major and minor complications. In terms of efficacy, the question was whether radiofrequency ablation produced at least equivalent clinical outcomes, in comparison to surgical treatment or non-surgical ablative treatments.

*Data collection and analysis* – Data from the included studies were extracted by the ASERNIP-S Researcher using standardised data extraction tables developed *a priori* and checked by a second researcher. It was not considered appropriate to pool results across studies. Relative risks (RR) or weighted mean differences (WMD) and the 95% confidence intervals (CI) were calculated individually for the same outcomes in the RCTs and the quasi-RCT.

#### Results

The evidence was limited by small sample size, short follow-up times and a lack of comparability between the outcome measures. Despite the limitations of the data, RFA generally resulted in larger and more complete areas of ablation and may also be associated with higher survival rates compared to the other ablative techniques assessed in this review. Surgical resection was associated with a lower rate of recurrence and an increased time interval to recurrence compared to RFA. However, these two

procedures are usually performed on different patient groups, with RFA being performed on patients who are unable to undergo surgical resection.

### **Conclusion and recommendations**

On the basis of the evidence presented in this systematic review, The ASERNIP-S Review Group agreed on the following classifications and recommendations concerning the safety and efficacy of radiofrequency ablation for the treatment of liver tumours.

### **ASERNIP-S classification**

Evidence rating - Average

Safety - At least as safe compared to comparator procedure(s)

Efficacy - Efficacy cannot be determined

### **ASERNIP-S recommendations**

It was recommended that surgeons practicing radiofrequency ablation for primary hepatocellular carcinoma or metastatic colorectal liver carcinoma should participate in an audit of their outcomes of RFA, preferably at a national level.

### **Review Group Membership**

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**Important note** The information contained in this report is a distillation of the best available evidence located at the time the searches were completed as stated in the protocol. Please consult with your medical practitioner if you have further questions relating to the information provided, as the clinical context may vary from patient to patient.

### **For further information about ASERNIP-S**

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