



POSTER

An investigation on the deleterious effects of cryoablation on hepatocellular carcinoma

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Abstract

Vietnam is witnessing an elevated mortality rate of hepatocellular carcinoma (HCC) [1]. The early symptoms of this cancer are usually vague and not unique to liver disorders, thus presenting difficulties in diagnosis and treatment. Therapies like chemo- and radiotherapy can only prolong patients' lives without possible cure [2]. At present, in addition to novel therapies, cryoablation has demonstrated its therapeutic effectiveness in certain countries [3-6]. However, this technique is still uncommon in Vietnam. With the aim of introducing cryoablation to HCC treatment, we have developed a piece of cryoprobe apparatus and investigated its deleterious effects at tissue levels and in vitro cell viability. Our results showed that the cryoprobe using liquid nitrogen reached -159.9°C within 15.4 seconds. While full deleterious effects were witnessed in mice within investigated freezing duration, the same effects were only seen in rabbits after 90 seconds of freezing. 60 and 45 seconds of freezing only caused cellular damage. Finally, human malignant cells were killed by two freeze - thaw cycles in 90 seconds and 9 minutes respectively

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Keywords

Human malignant cells, hepatocellular carcinoma, cryoablation

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