

Letter to the Editor

The Aquamantis® system as alternative for parenchymal division and hemostasis in liver resection for hepatocellular carcinoma: a preliminary study

Dear Editor,

Liver surgery is one of the most complicated surgical techniques¹⁻³. Over the last decades, this technique has notably evolved allowing to treat patients not otherwise treatable since few years ago. The most dreaded peri-operative complication in liver surgery is the bleeding. Indeed, liver surgery is a transection surgery for a parenchymatous organ. Therefore, the highest risk during the parenchyma transection is represented from the bleeding. By this way, the evolution of this surgical technique was aimed to improve the bleeding control and reduce as much as possible the volume of blood loss. Blood loss is risky for the patients. Many studies have largely demonstrated the significant impact of this risk factor on both patient post-operative outcome and patient long term survival. Indeed, the tumor recurrence in patient underwent liver surgery for malignant tumor results lower in case of better blood control. Moreover, the main indication for liver resective surgery is the Hepatocellular Carcinoma (HCC). HCC occurs mostly in cirrhotic liver, this condition of the liver parenchyma makes highly difficult the procedure of liver resection. Bleeding in course of liver resection in cirrhotic liver is a frequent adverse event and this complication is the major risk for patient morbidity and mortality in the peri-operative period. One more aspect that needs to be taken in consideration is the diffusion of the laparoscopic surgery for liver tumors. Bleeding control in laparoscopic surgery is more difficult than in open surgery. Particularly, suturing in laparoscopic surgery is not easy as well as in open surgery. By this way, the use of devices developed for liver parenchyma cutting and coagulating has strongly increased the patient safety in laparoscopic liver surgery as well as in open liver surgery. Bipolar forceps has demonstrated to be a valid device to control the hemostasis on the liver surface, avoiding to damage the residual parenchyma. This system has limited cost and favorable cost-effectiveness relationship. The most advanced evolution of a bipolar system is the Aquamantis® System. This system allows to overcome problems that occur using the common bipolar forceps. Particularly, the association with irrigation and ergonomic tips seems to be optimal for managing liver cutting surface. The Aquamantis® System may be applied with laparoscopic instruments, and the use of this device in the laparoscopic liver surgery seems to highlight the benefits. The study from Currò et al⁴ is a preliminary study, retrospective and descriptive aimed to emphasize the benefits of the Aquamantis in liver surgery for HCC. Probably also in so called frail patients, i.e. HIV-positive liver cancer patients⁵⁻¹⁰, this approach could be useful. We may agree with authors of this study and recommend the use of this device in the field of laparoscopic liver surgery.

Conflict of Interest

The Authors declare that they have no conflict of interests.

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