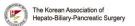


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In-vivo Experiment For The Efficacy Of Hemostatic Agents In Porcine Liver Punch Biopsy Model

<u>Yoonhyeong BYUN</u>¹, Hee Ju SOHN², Jung Min LEE³, Jae Seung KANG⁴, Yoo Jin CHOI⁵, Youngmin HAN², Hongbeom KIM², Wooil KWON², Jin-Young JANG*²

¹Surgery, Uijeongbu Eulji Medical Center, REPUBLIC OF KOREA

Background: Since the postoperative bleeding are poor prognostic factor, various hemostatic agents have been introduced. In this study, powder-type polysaccharide (Arista™ AH), powder-type thrombin (Avitene®), and powder-type thrombin (Beriplast®) products, which are commonly used hemostatic agents, were included. This experiment was conducted to compare the efficacy between these three hemostatic agents in the porcine liver punch biopsy model.

Methods: 60 punch biopsy lesions were uniformly prepared in the 3 porcine livers. After the initial bleeding grade was evaluated, Arista™ AH, Avitene®, and Beriplast® were applied to each of 15 lesions. Then, the bleeding grade was checked at 1-minute intervals until 10 minutes.

Results: There was no significant difference in the initial bleeding grade for each group. In a comparison of the time to hemostasis between each agent, Beriplast® (median 5 minutes [interquartile range 3–6] showed superior results compared to the other two agents (8 minutes [6–10] in Arista™ AH, p=0.014; 6 minutes [6–8] in Avitene®, p=0.019). Arista AH™ and Avitene® did not show a statistically significant difference (p=0.240). The lesions that failed to achieve hemostasis within 10 minutes was investigated, one lesion (6.7%) in Arista™ AH, two (13.3%) in Avitene®, and one (6.7%) in Beriplast®, and rebleeding was checked in four Arista™ AH (26.7%).

Conclusions: The hemostatic performance of the glue-type thrombin agent was superior in this study. And powder-type agent rebleeds when the shape of the applied hemostatic surface changes easily. It will be important to select an appropriate hemostatic agent according to the characteristics of the agent.

Corresponding Author: Jin-Young JANG (jangjy4@gmail.com)

²Surgery, Seoul National University Hospital, REPUBLIC OF KOREA

³Surgery, Gangnam Severance Hospital, REPUBLIC OF KOREA

⁴Surgery, Korea University Guro Hospital, REPUBLIC OF KOREA

⁵Surgery, Korea University Anam Hospital, REPUBLIC OF KOREA