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Journal of the Medical Association of Thailand, Vol 96, No 3

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A Randomized Controlled Trial of Staple Fixation Versus N-butyl-2-cyanoacrylate Fixation in Laparoscopic Inguinal Hernia Repair

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Abstract

Background: There has been paramount concern among most surgeons over complications caused by staples in the form of pubic injury and nerve entrapment leading to chronic pain in laparoscopic inguinal hernia repair.

Objective: The present study aimed to compare the use of N-butyl-2-cyanoacrylate (Histoacryl®) with that of staples in fixation of mesh in totally extra peritoneal laparoscopic inguinal hernia repair in terms of acute and chronic pain, complications, and recurrence within 1 year.

Material and Method: 60 patients were allocated into 2 groups. The same protocol of general anesthesia was applied in both groups. In the staple group, Ultrapro mesh was used to cover the myopectineal orifice and was transfixed with staples. In the glue group, Histoacryl® was sprayed to fix the mesh at the same area as in the staple group and also at the triangle of pain. Demographic data collected included fentanyl use, operation time, visual analogue pain score (VAS), chronic pain, complications and recurrence.

Results: Demographic data and complications showed no significant difference in the two groups. VAS in the staple group was significantly greater than that in the glue group after 24 hours (1.6 + 1.33 vs. 2.35 + 1.32) ($p = 0.037$). The incidence of chronic pain after 3 months and 1 year was higher in the staple group (33.0%, 33.0%, vs. 23.0%, 16.0%) ($p = 0.390, 0.360$). One patient in the staple group had a hernia recurrence eight months after the operation.

Conclusion: N-butyl-2 cyanoacrylate might be an alternative choice of mesh fixation in TEP since overall complications and recurrence of hernia were not significantly different compared to staple fixation.

Keywords: Inguinal hernia, Laparoscope, Cyanoacrylate glue, Chronic pain, Hernia repair

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