

# Cold Snare Polypectomy in Pedunculated Colorectal Polyps: A Systematic Review and Meta-Analysis

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## INTRODUCTION

Colonoscopy remains a vital tool for colorectal cancer screening and allows for early detection and removal of adenomatous polyps. While several studies have reported on cold snare polypectomy (CSP) and hot snare polypectomy (HSP) in sessile and flat elevated polyps; limited data exists on outcomes in pedunculated polyps. We conducted a systematic review and meta-analysis to evaluate the efficacy and safety of CSP for pedunculated polyps.

## METHODS

Multiple databases were searched till June 2022 to identify studies involving the removal of pedunculated polyps with CSP and HSP.

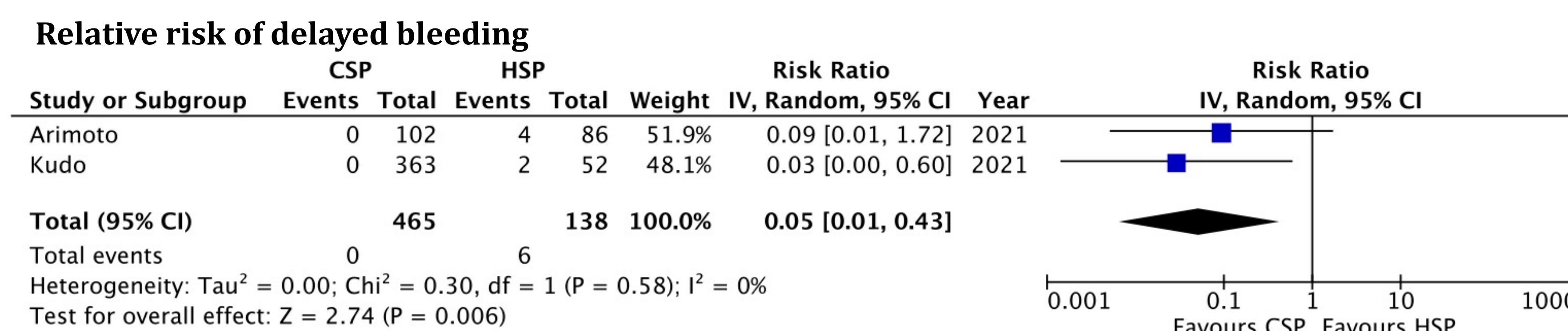
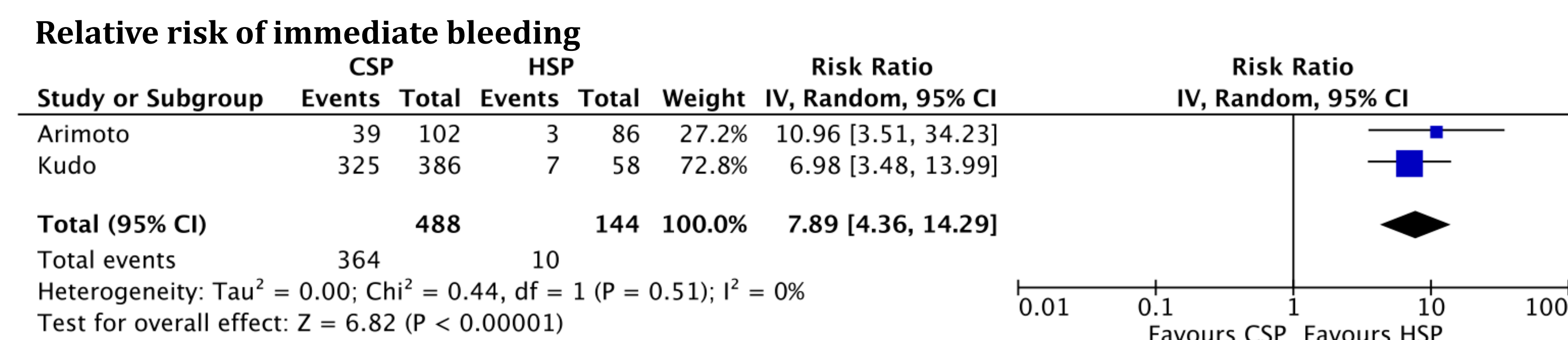
→ Primary outcome was to assess pooled rates of immediate and delayed bleeding with CSP.

→ Secondary outcomes included pooled rates of en-bloc, piecemeal resection, prophylactic and post resection clipping.

→ Meta-regression was performed to assess if bleeding was affected by polyp location and use of antithrombotics.

Table 1: Characteristics of Included Studies

Author, year	Study Design	Study Country	Total Polyps	CSP vs HSP
Arimoto, 2022	Prospective, single center	Japan	114	114 versus 0
Fatima, 2022	Prospective, single center	United States	239	239 versus 0
Arimoto, 2021	Retrospective, single center	Japan	188	87 versus 64
Kudo, 2021	Retrospective, single center	Japan	444	363 versus 52
Arimoto, 2020	Retrospective, single center	Japan	90	90 versus
Kaltenbach, 2019	Retrospective, multicenter	United States	94	94 versus 0



## RESULTS

Six studies including 1025 patients (1,111 polyps with a mean size 4 – 8.5 mm) were analyzed. 116 and 995 polyps were removed with HSP and CSP, respectively. Overall pooled rate of immediate and delayed bleeding following CSP was 49.8% (CI 46.8-52.91; I<sup>2</sup> 98%) and 0% (CI 0.00-0.00; I<sup>2</sup> 0%), respectively. Delayed bleeding was lower with HSP, RR 0.05 (CI 0.01-0.43; I<sup>2</sup> 0%), p=0.006, while immediate bleeding was higher with CSP, RR 7.89 (CI 4.36-14.29; I<sup>2</sup> 0%), p<0.00001. Pooled rates of en-bloc resection, piecemeal resection, prophylactic clip placement and post procedure clip placement (to control immediate bleeding) were 99.7%, 0.3%, 55.3% and 47.2%, respectively. Finally, right colon polyp location significantly correlated with frequency of immediate bleeding.

## CONCLUSION

Our meta-analysis shows that CSP is safe and effective for resection of pedunculated colorectal polyps especially with a size < 10 mm. While CSP may increase the risk of immediate bleeding, HSP has a higher risk of delayed bleeding.