

Methodological concerns in evaluating water exchange combined with distal attachments for adenoma detection

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We read with interest the study by Leung *et al* regarding water exchange with distal attachments [1]. While the authors conclude that this combination optimizes the right-sided adenoma detection rate (ADR), several methodological issues suggest that these findings should be interpreted with caution.

First, the primary endpoint (overall ADR) did not reach statistical significance ($P=0.05$). The authors' suggestion that the non-significant result for Endocuff Vision ($P=0.057$) was merely a Type II error is speculative. As emphasized by Amrhein *et al* [2], in rigorous clinical trials, results exceeding the $P<0.05$ threshold should not be framed as positive trends to justify clinical efficacy.

Second, the reported benefit in the right colon was a non-prespecified secondary outcome. According to the trial registration (NCT03566615), right-sided ADR was not a predefined endpoint. Highlighting this specific finding after a negative primary result raises concerns about selective reporting and the inflation of Type I error through multiple testing.

Furthermore, the 13-min mean withdrawal time significantly exceeds the 6-8 min guideline recommendation and the 9-min clinical average [3]. This prolonged inspection is likely to create a "ceiling effect" [4], where meticulous observation outweighs the incremental benefit of distal attachments, limiting the results' generalizability to routine practice.

In summary, given the *post-hoc* nature of the significant findings, the borderline statistical results, and the non-standard withdrawal times, the conclusion that these modalities should be routinely used to optimize right-sided ADR is premature. A more conservative, hypothesis-generating tone would be more appropriate.

References

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