Response to Letter to the Editor on "Perioperative Outcomes of Branchial Cleft Sinus Tract Excision in Pediatric Patients Without the Use of Intraoperative Dye"

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Conflicts of interest: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding: The author(s) received no financial support for the research, authorship, and/or publication of this article.

To the Editor:

We appreciate the thoughtful commentary by Dr. Ravichandran[1] on our recent article, "Perioperative Outcomes of Branchial Cleft Sinus Tract Excision in Pediatric Patients Without the Use of Intraoperative Dye,"[2] and are grateful for the opportunity to respond. We agree with the letter's recognition of our study's relatively large sample size and its contribution to the evolving understanding of branchial cleft anomaly (BCA) management. We also acknowledge the limitations raised and would like to provide further context and clarification to our preliminary study.

First, the retrospective nature of our study inherently carries risks of selection bias and incomplete data capture. We concur that the limited availability of quantitative sinus tract length (available in only 40 of 118 patients) constrains our ability to evaluate its association with surgical outcomes. However, even in this subset, we observed no recurrences.

Second, we agree that the absence of a direct comparator group using intraoperative dye precludes definitive conclusions about its necessity. Our goal was not to argue against dye use in all cases. Indeed, there might be certain case characteristics that point toward using intraoperative dye.[3] Rather, we report outcomes from a cohort in which dye was not used, thereby providing evidence that safe and effective outcomes are achievable without it. As noted, our study population included patients with various anatomic complexities, and successful outcomes in these patients suggest that routine dye use may not be universally required.

Third, the concern about missed recurrences due to follow-up outside our system is valid. While our tertiary-care institution typically follows patients longitudinally, we cannot exclude the

possibility that complications were managed elsewhere. This underscores the need for future prospective studies with standardized follow-up protocols to more precisely quantify long-term outcomes.

Regarding the suggestion to include detailed phenotyping of each branchial cleft anomaly and to screen for syndromic associations such as branchio-oto-renal (BOR) syndrome, we agree that these additions would enhance both clinical utility and generalizability. In our series, patients with suspected syndromic anomalies typically underwent genetic evaluation; however, comprehensive phenotypic and syndromic classification was outside the scope of this particular study. We appreciate the encouragement to include this level of detail in future work.

Lastly, we echo the call for further research to define which patient populations—such as those with type III anomalies or deep tract extensions—may benefit from adjuncts like intraoperative dye, fibrin glue, or preoperative imaging. As we noted in our discussion, our findings should not be interpreted as a mandate to abandon dye use universally, but rather as support for a more selective, patient-centered approach.

We thank the authors of the letter for their constructive insights and look forward to future studies that build on this work to optimize BCA management and improve surgical outcomes.

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