

Three-Step Anterior Skull Base Reconstruction Technique for Invasive Aspergillosis: 2-Dimensional Operative Video

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Received, September 06, 2024; **Accepted,** October 18, 2024; **Published Online,** November 25, 2024.

Operative Neurosurgery 29:602–603, 2025

<https://doi.org/10.1227/ons.0000000000001472>

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Invasive aspergillosis infiltrating the skull base and intracranial structures is associated with a high fatality rate (40%-80%) and requires aggressive surgical resection combined with oral triazole therapy.¹⁻³ Postresection reconstruction of anterior skull base (ASB) defects is crucial to prevent cerebrospinal fluid (CSF) leaks, infection, and recurrence (4%-18%).⁴ This report introduces a 3-step ASB reconstruction technique using a well-vascularized flap to ensure effective repair. A 79-year-old man presented with intracranially invasive sinusitis. After gross lesion removal, a 28-mm ASB defect was repaired using multilayered reconstruction. Cooperative suturing was performed because periosteal flap migration was confirmed endoscopically. Postoperatively, no CSF leak was observed and the abscess resolved completely. A combined transcranial and transnasal approach is reported to have good outcome for patients with intracranially invasive sinusitis.⁶ Although some studies have highlighted the necessity of multilayered repair in high-risk cases, detailed reports are scarce.^{7,8} In cases of large ASB defects extending to the anterior wall of the sphenoid sinus, which is the border between the pedicle periosteum and nasal mucosal flap, this combined approach can be indicated. Although previous reports showed flap migration led to CSF leak,^{9,10} this approach can ensure secure suturing and fixation and confirm endoscopically that the defect is fully covered with flaps. This suturing technique is straightforward, does not require specialized skills, and can be applied in surgeries for other diseases, as previously reported.¹¹ The patient consented to the procedure and publication of this report. The ethics committee of our hospital did not require approval for this report.

KEY WORDS: Anterior skull base reconstruction, Invasive aspergillosis, Intracranial extension

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Funding

This study did not receive any funding or financial support.

Disclosures

The authors have no personal, financial, or institutional interest in any of the drugs, materials, or devices described in this article.

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Acknowledgments

Author Contributions: All authors contributed to the study conceptualization and design. Data collection and Data analysis: Nobuyasu Kato, Kenta Nakase; Writing—original draft preparation: Nobuyasu Kato, Kenta Nakase; Writing—review and editing: Nobuyasu Kato, Kenta Nakase, Takayuki Ishikawa, Tetsuya Nagatani; Supervision: Yuichiro Isozawa, Tomiyuki Miyake, Yosuke Sakai, Hayato Yokoyama, Tetsuya Tsukada, Yusuke Sakamoto, Yoshio Araki, Tetsuya Nagatani, Yukio Seki.