PSC3: The Application of Open-Source 3D Planning Software in Virtual Reconstruction of Complex Maxillofacial Defects: Our Local Experience

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OBJECTIVE: To present our in-house 3D planning protocol using open-source computer-aided design (CAD) software and demonstrate its applications in various craniomaxillofacial defects and reconstruction

METHODS

Study Design:	Case Series
Setting:	Tertiary Private Hospital
Patient:	Ten (10)

RESULTS: A total of 10 patients were included. 1 cranial, 1 orbital, 1 maxillary, and 7 mandibular defects were surgically reconstructed aided by our in-house 3D planning protocol. A decreasing trend in intraoperative time was noted on 4 patients who underwent mandibular reconstruction using fibular free flap. Likewise, all resulted to good functional and aesthetic outcomes with no complications noted post-op.

CONCLUSION: Our 3D planning protocol using open-source CAD applications may be a good alternative to its professional and expensive counterparts. Additional prospective studies should be done to better demonstrate its benefits in terms of accuracy and decreasing intraoperative time of craniomaxillofacial surgeries.

KEYWORDS: 3D planning, computer-aided surgery, craniomaxillofacial reconstruction