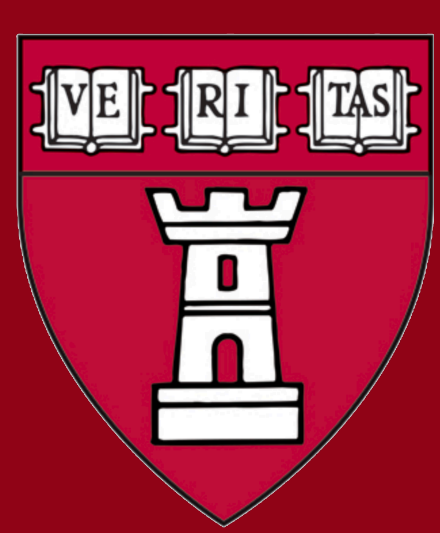




Computer-Assisted Implant Surgery and Fixed Provisionalization Assisted by Screw Retained Transitional Implants in Edentulous Patients

Betty Ben Dor BS¹; Ignacio Pedrinaci DDS, MsC^{2,3}; Dominique Rousson DDS, DMD²; Alejandro Lanis DDS, MS²; Javier Sanz-Esporrin DDS, MSc, PhD^{3,4}; Kevser Pala DMD²; German O. Gallucci DDS, PhD²; Adam Hamilton BSc, DCD, FRACDS^{2,5}

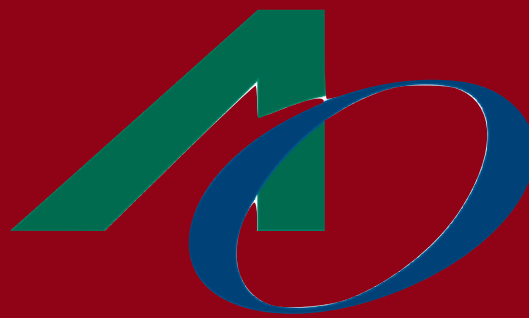
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AIM

To assess the clinical efficacy of transitional implants (TIs) for full-arch rehabilitation in providing support for a surgical guide and the ability of TIs to support a provisional prosthesis until delivery of the final implant-supported restoration.

Full presentation

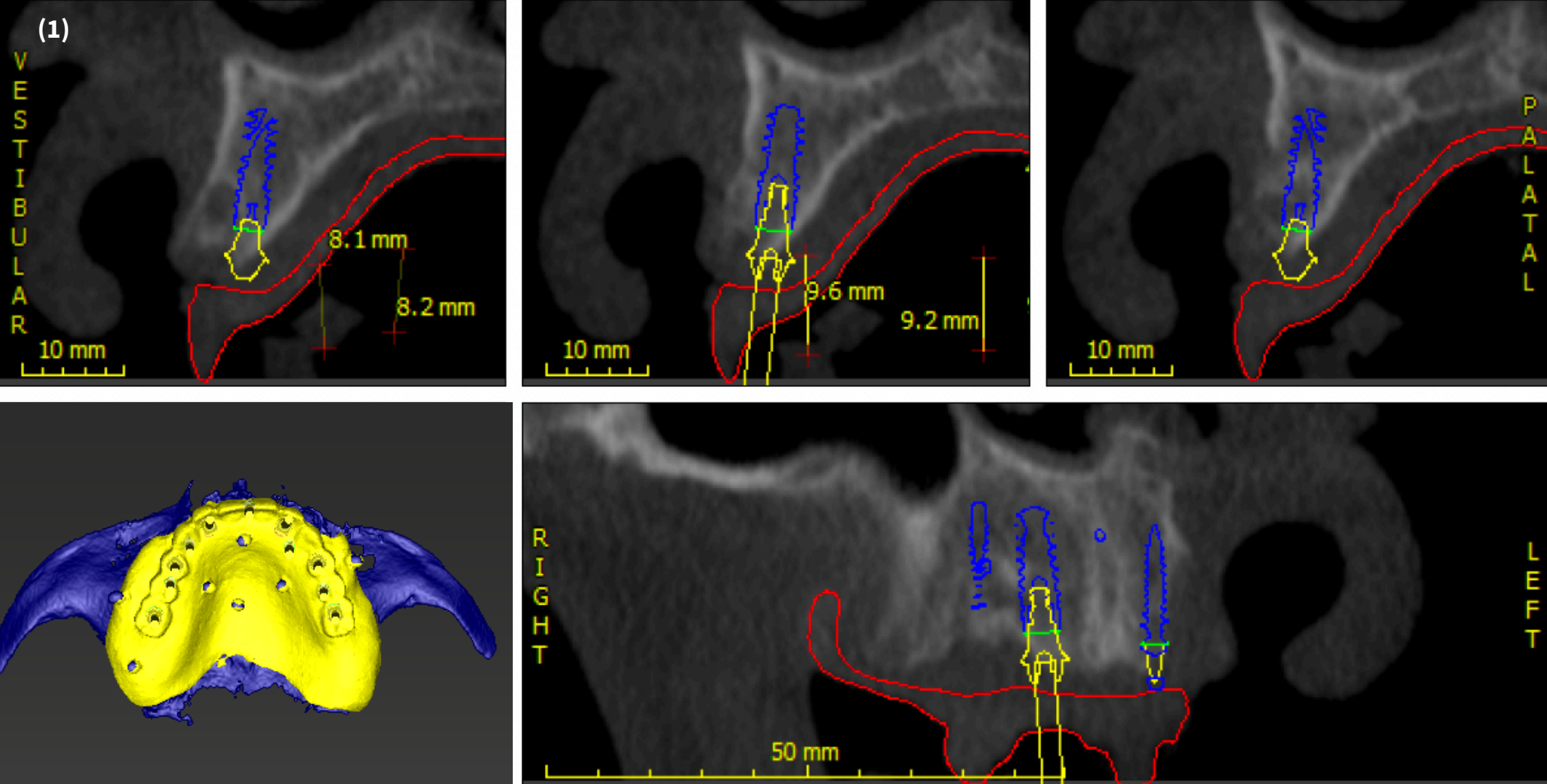
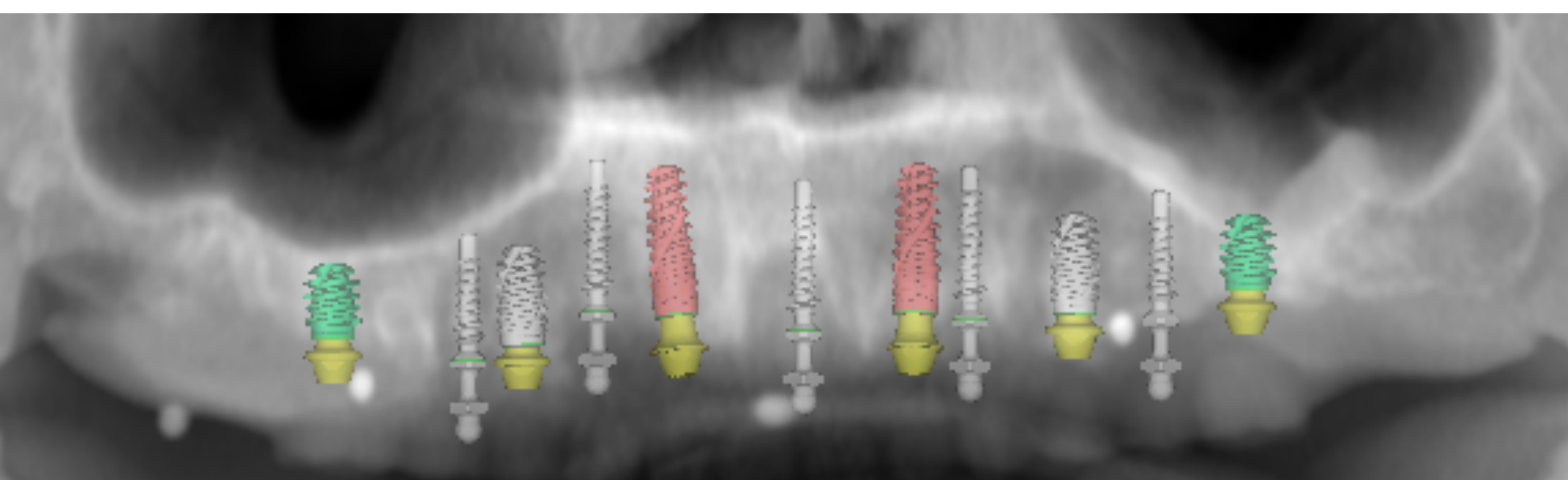
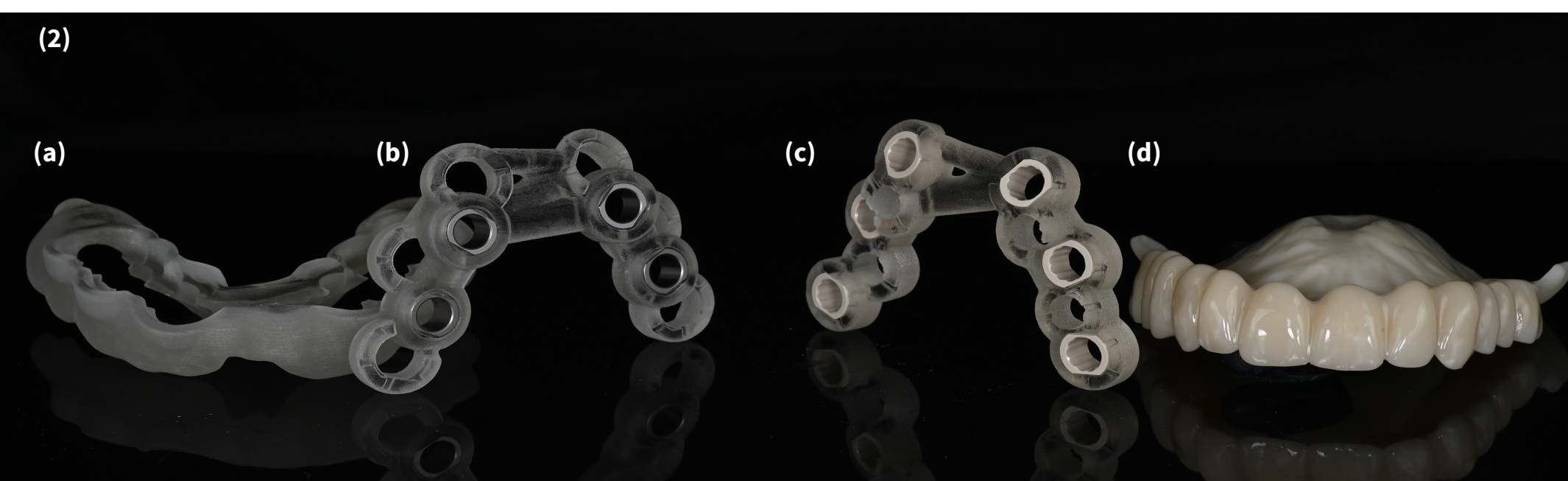


METHODS

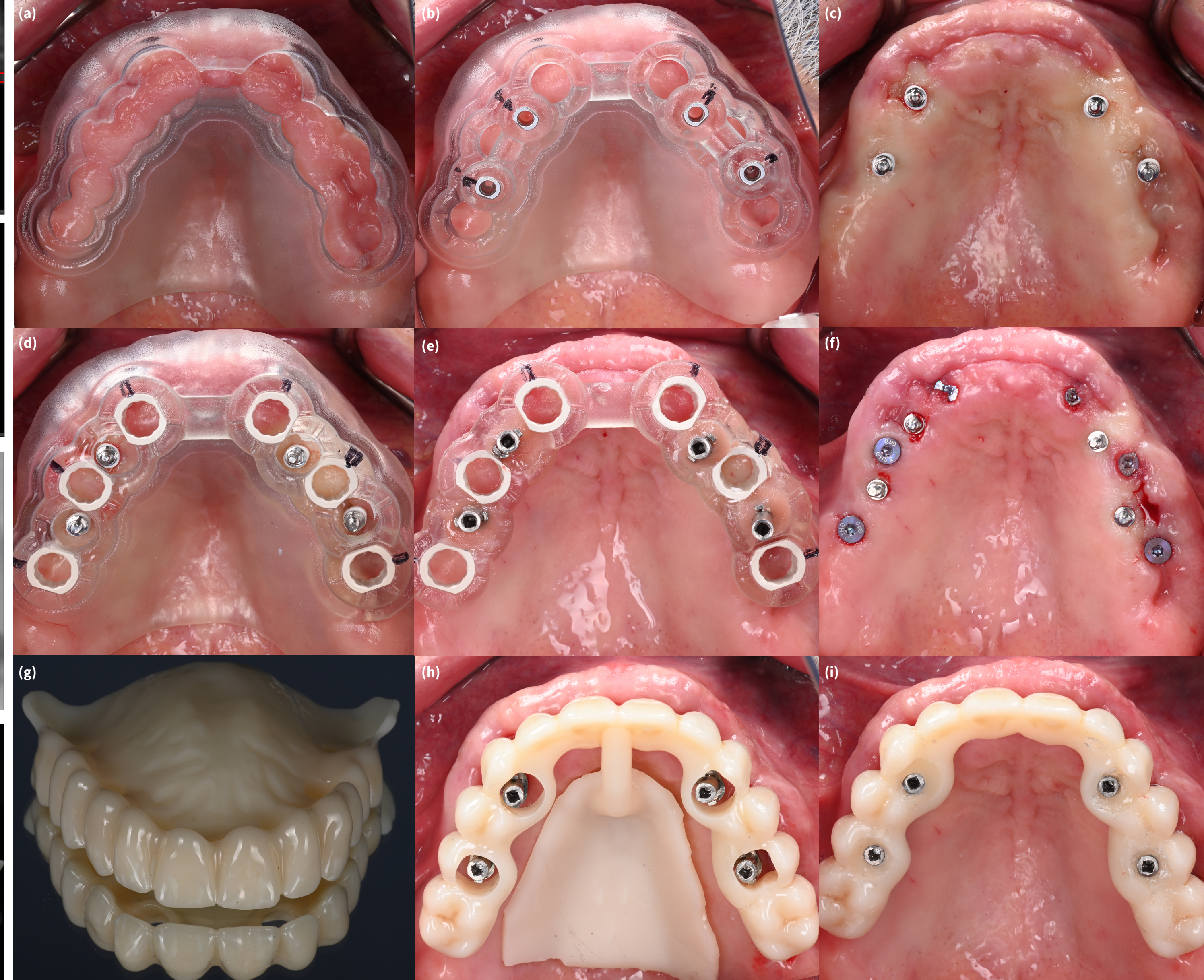
Patients who received TIs between 2012-2023 at the Harvard School of Dental Medicine with the goal of receiving a complete arch implant-supported prosthesis were evaluated retrospectively.

Variables collected:

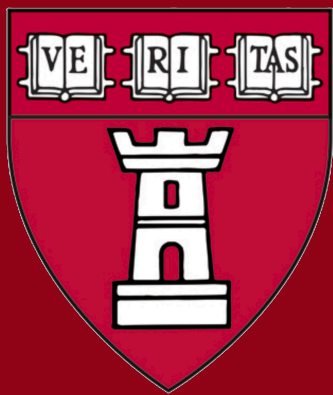
- patient demographic data
- TI functionality in supporting a surgical guide and/or a provisional prosthesis
- dates of TI placement and regular implant surgery



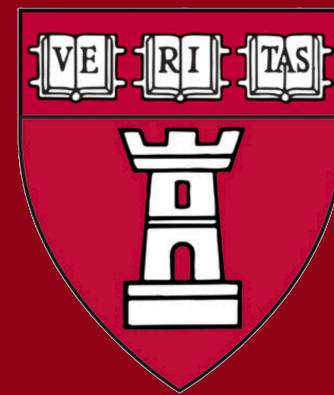
(1) sample digital surgical planning
(2) (a) Mucosa-supported guide used to support (b) guide for TI placement and (c) TI-supported guide; (d) Provisional prosthesis to be retained on TIs.



(a) Mucosa-supported stackable guide; (b) surgical guide with metal sleeves for TIs; (c) TI placement
(d) Surgical guide for regular implant surgery; (e) surgical guide loaded on TIs; (f) regular implant placement
(g) Provisional prosthesis; (h) provisional prosthesis delivery on TIs; (i) final provisional prosthesis

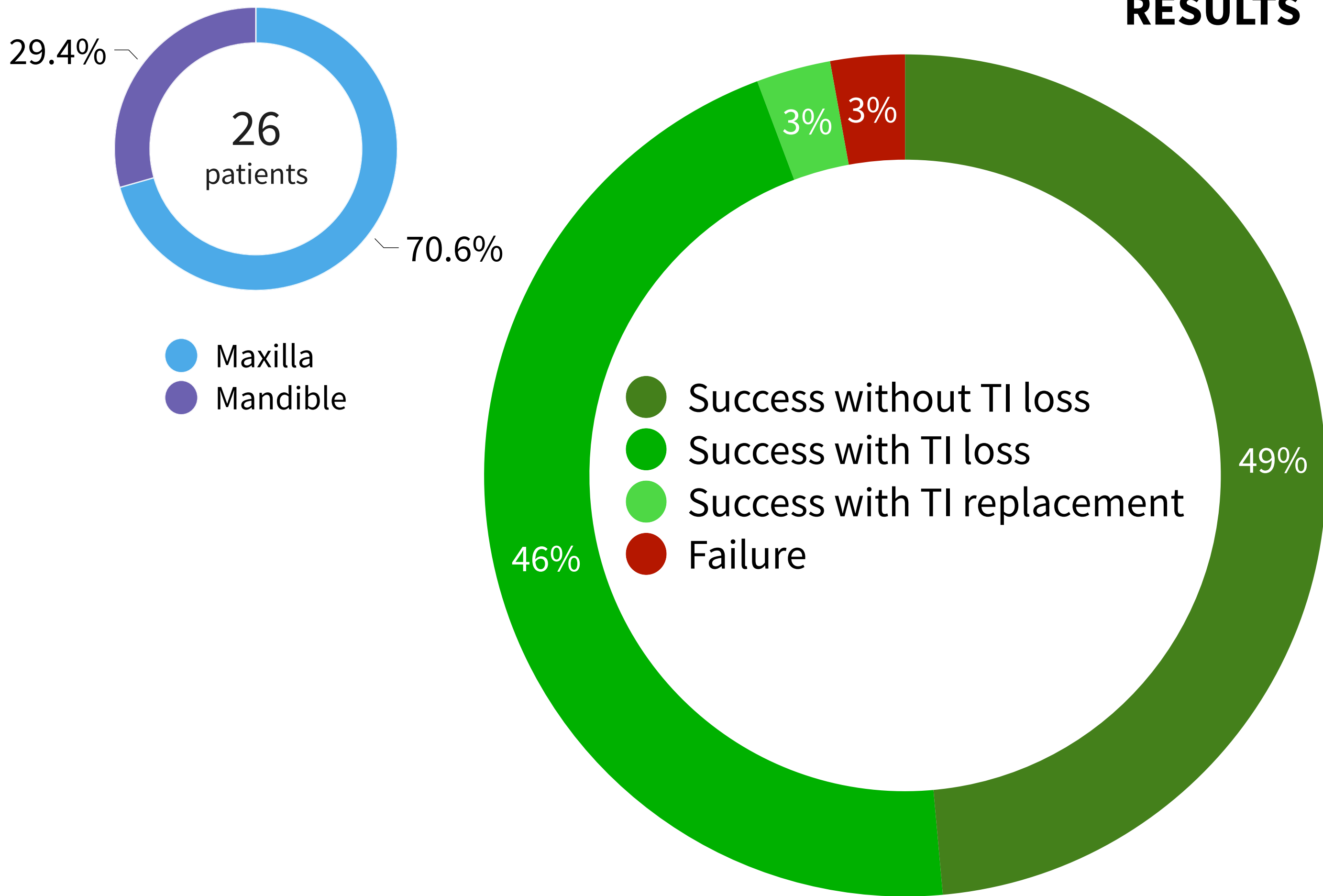


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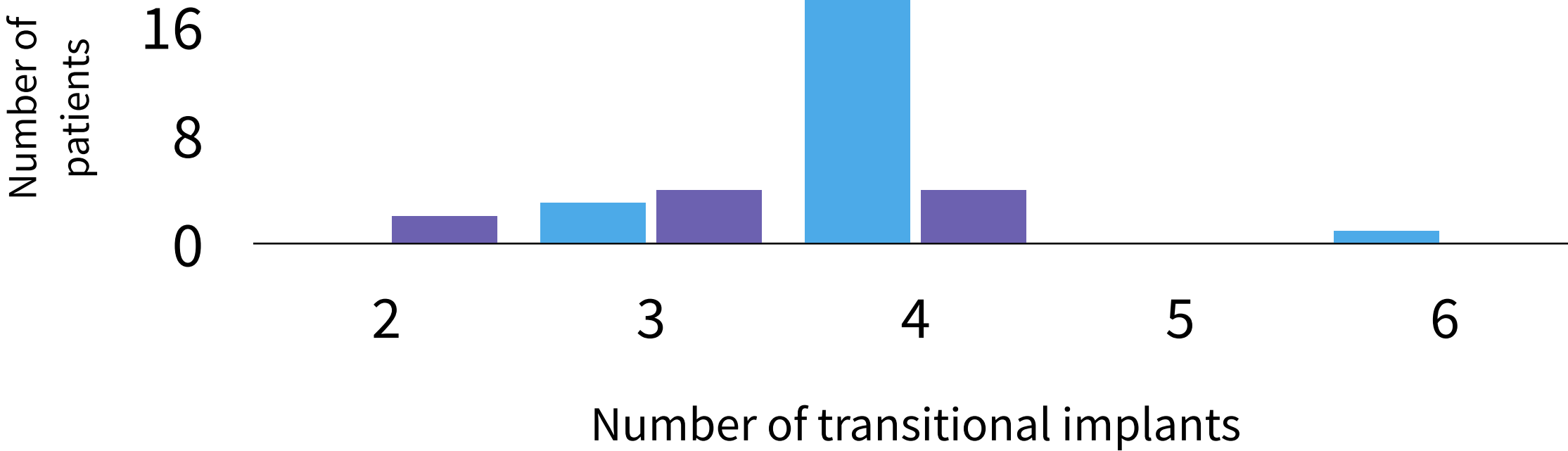


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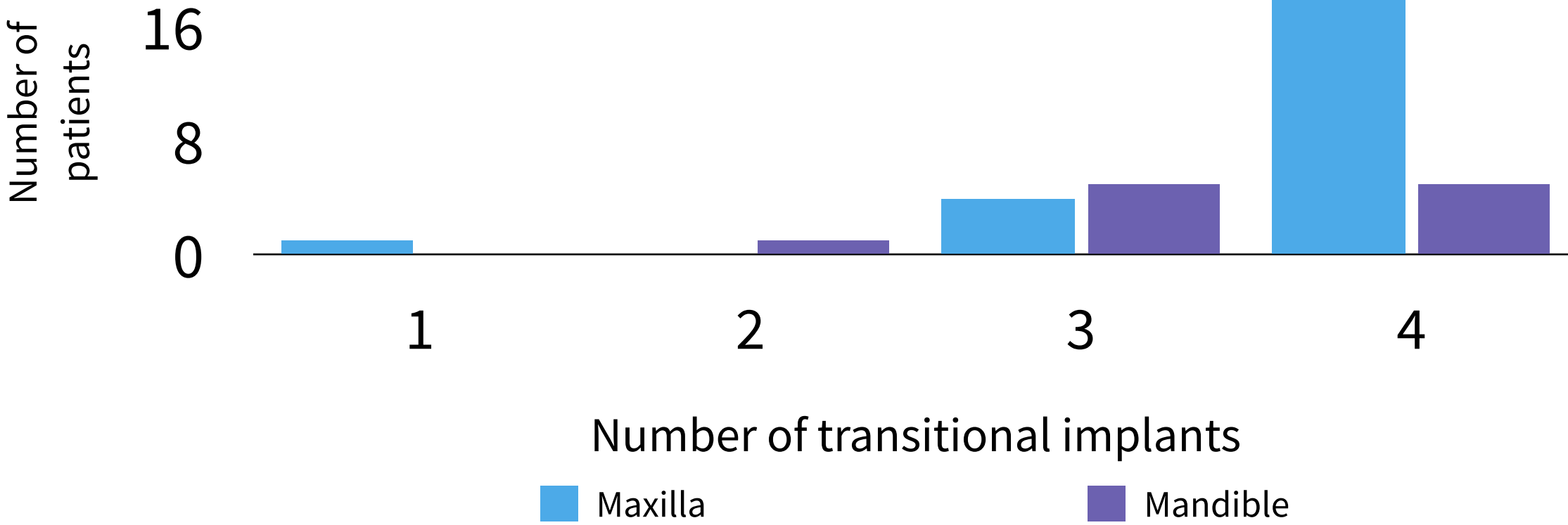
RESULTS



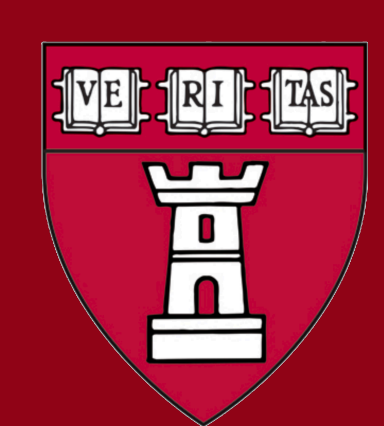
Surgical Guide Support by Transitional Implants



Provisional Prosthesis Support by Transitional Implants



*One patient had retention of a maxillary provisional on one TI due to use of pre-existing implants



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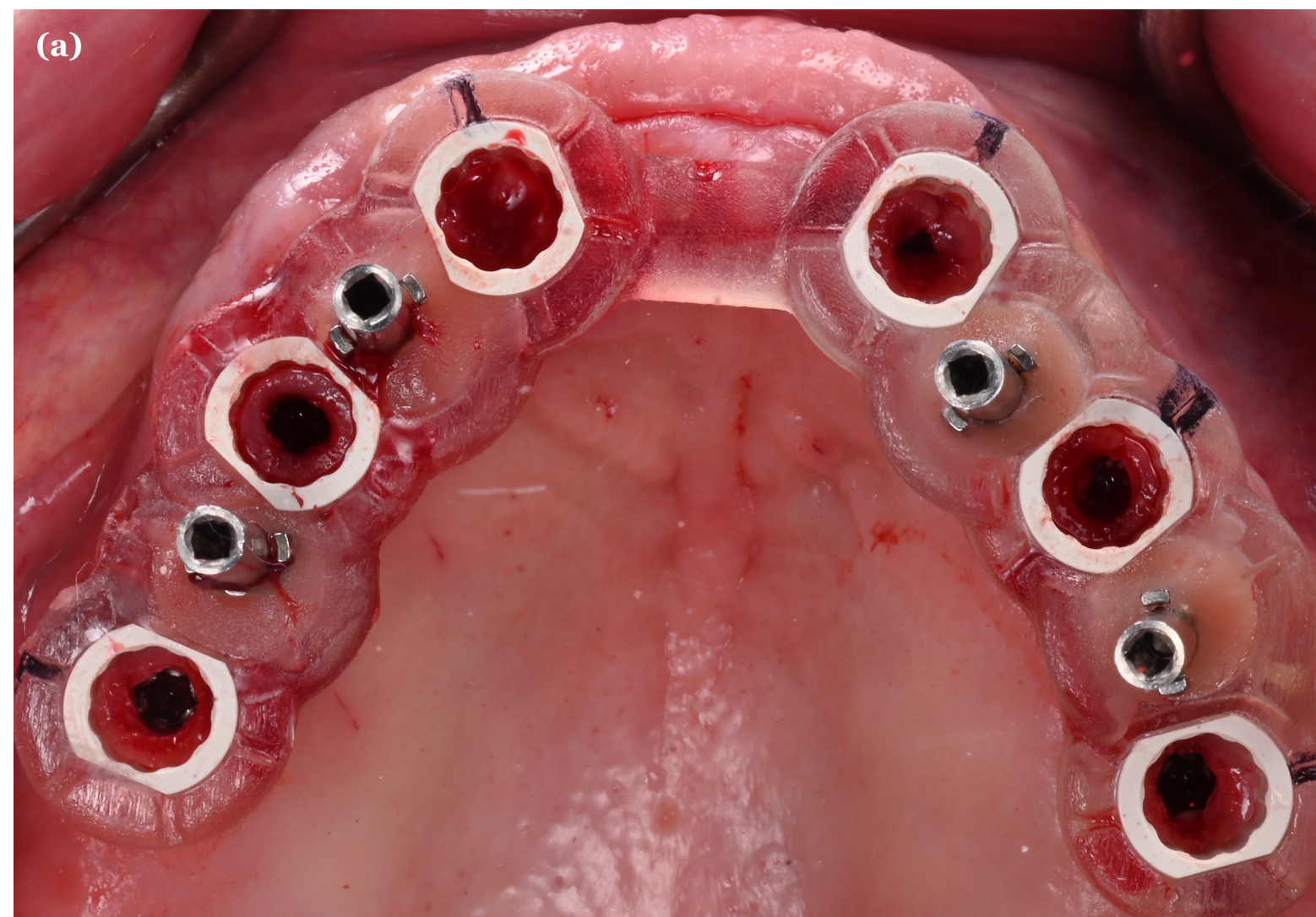
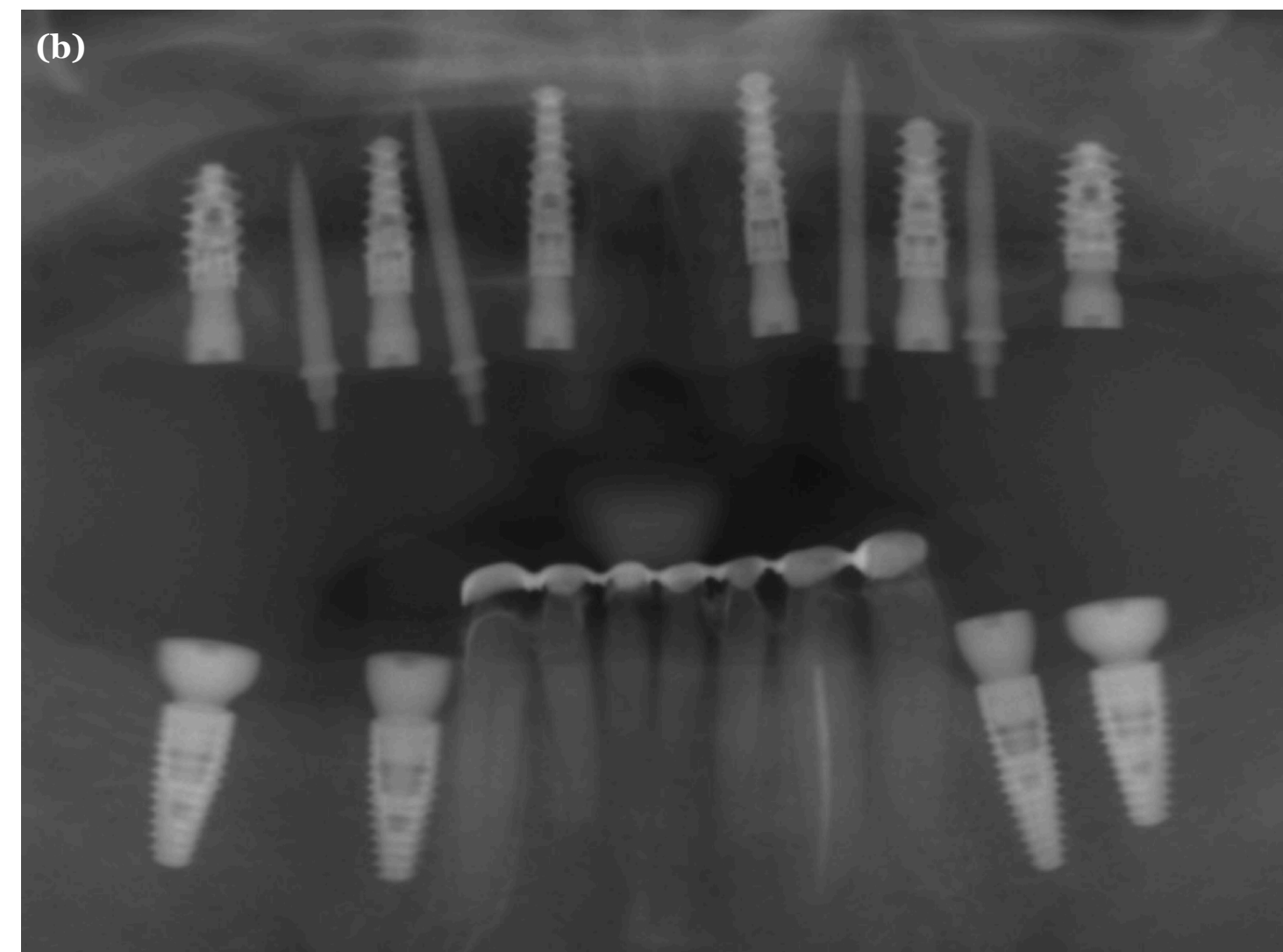
Findings

Overall treatment success rate = 97% either with or without loss of TIs

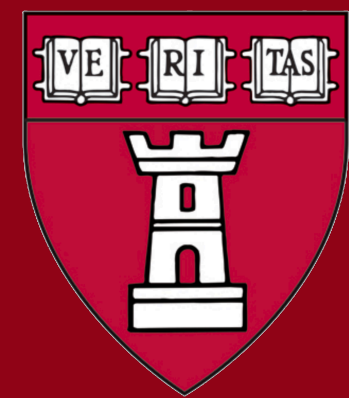
Failure of TIs did not impact the overall use of surgical guides → remaining TIs could be used as surgical guide support

Regular diameter implants:

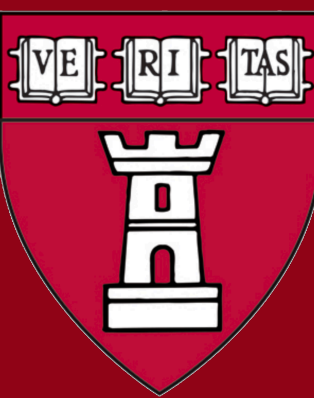
- 216 bone level implants placed
- 199 implants placed fully guided using TI support
- **Simultaneous bone augmentation** carried out for 163 implants → **98% success rate**



(a) Transitional implant-supported guide for regular implant surgery; (b) Panoramic radiograph showing position of regular implants and transitional implants in the maxilla



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CONCLUSIONS

TIs: successful support for surgical guides and provisional prostheses

TI advantages:

enable flap elevation for
augmentation procedures
without interfering with
surgical guide

bone reduction
procedures not
necessary

elimination of possible
interferences of a
removable prosthesis with
augmented sites

ensure that the patient
receives a fixed provisional
prosthesis regardless of
implant status

allow for delivery of a fixed
provisional prosthesis on the
day of surgery without
immediate loading of the
regular implants

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Full presentation



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