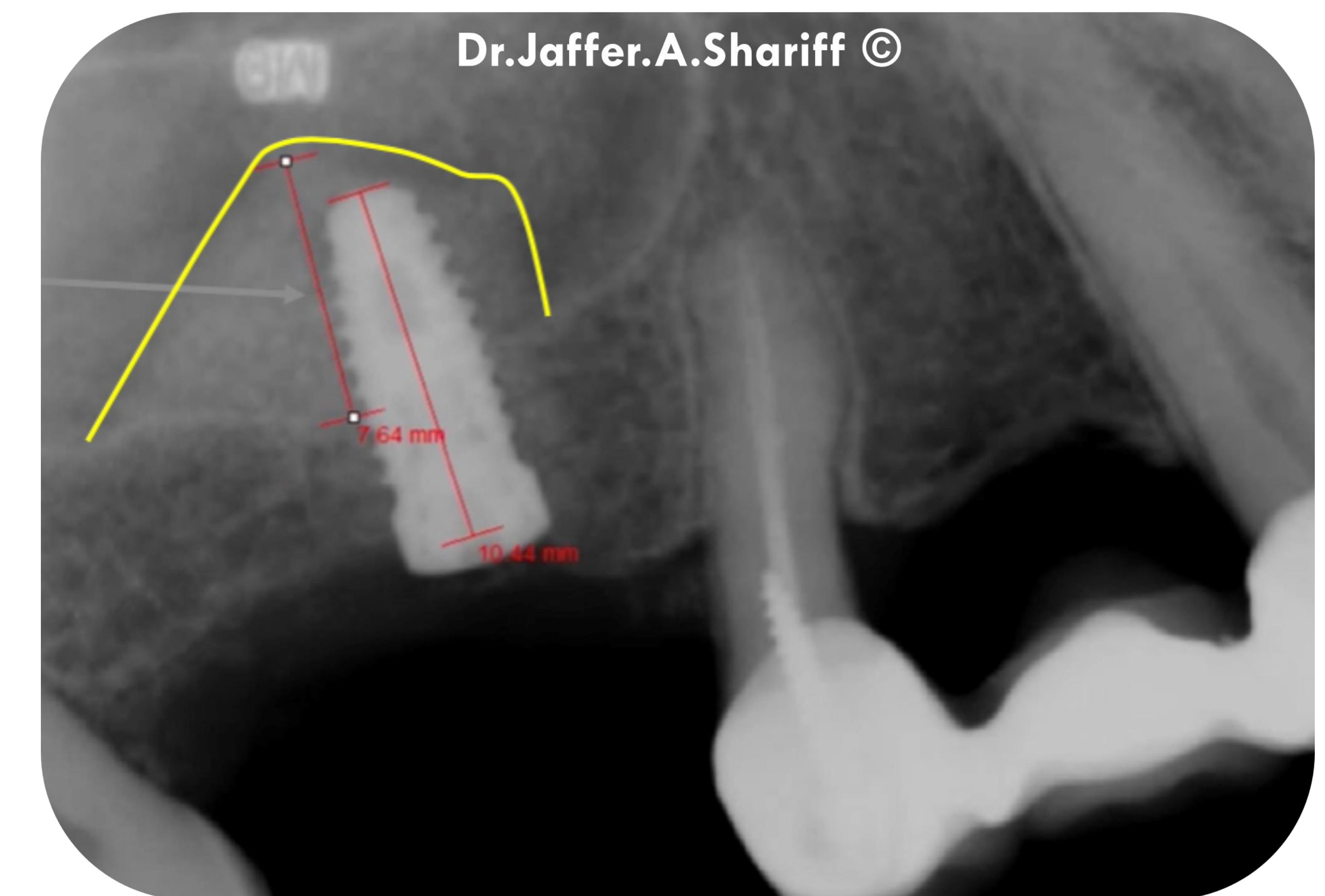
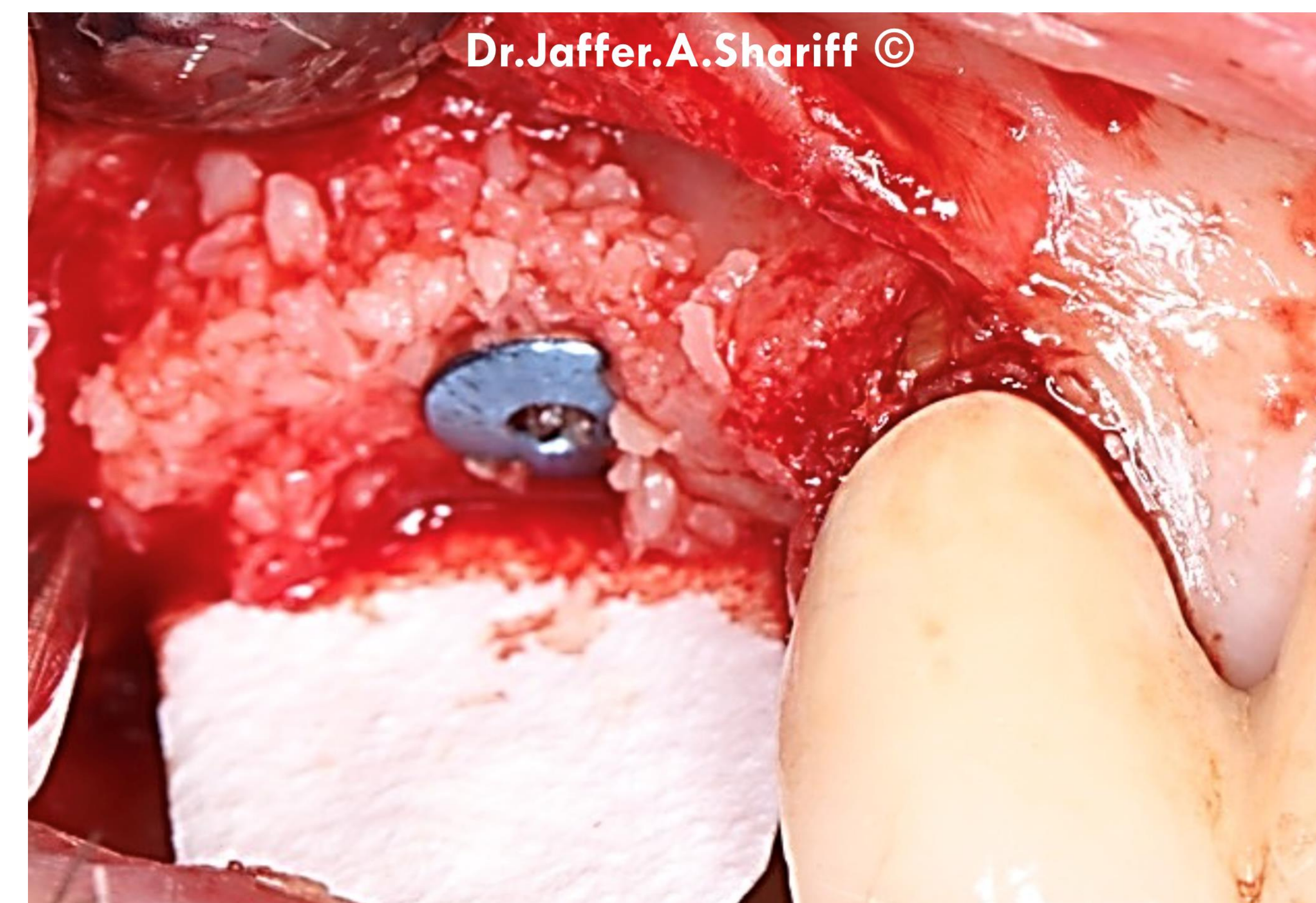
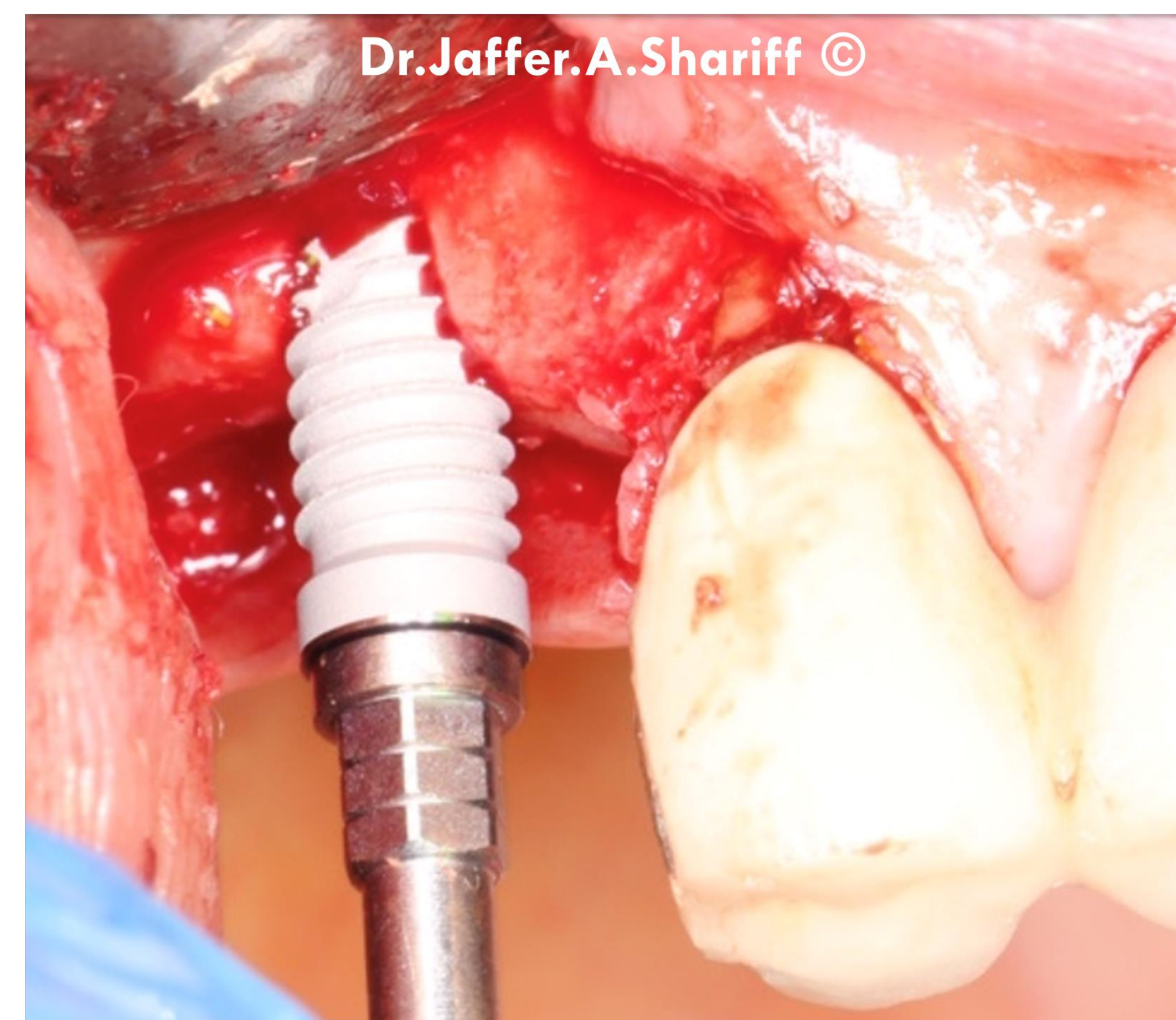


Transcrestal Sinus Augmentation through Compaction Grafting: Case Series and Systematic Review/Meta-analysis of Uncontrolled Studies

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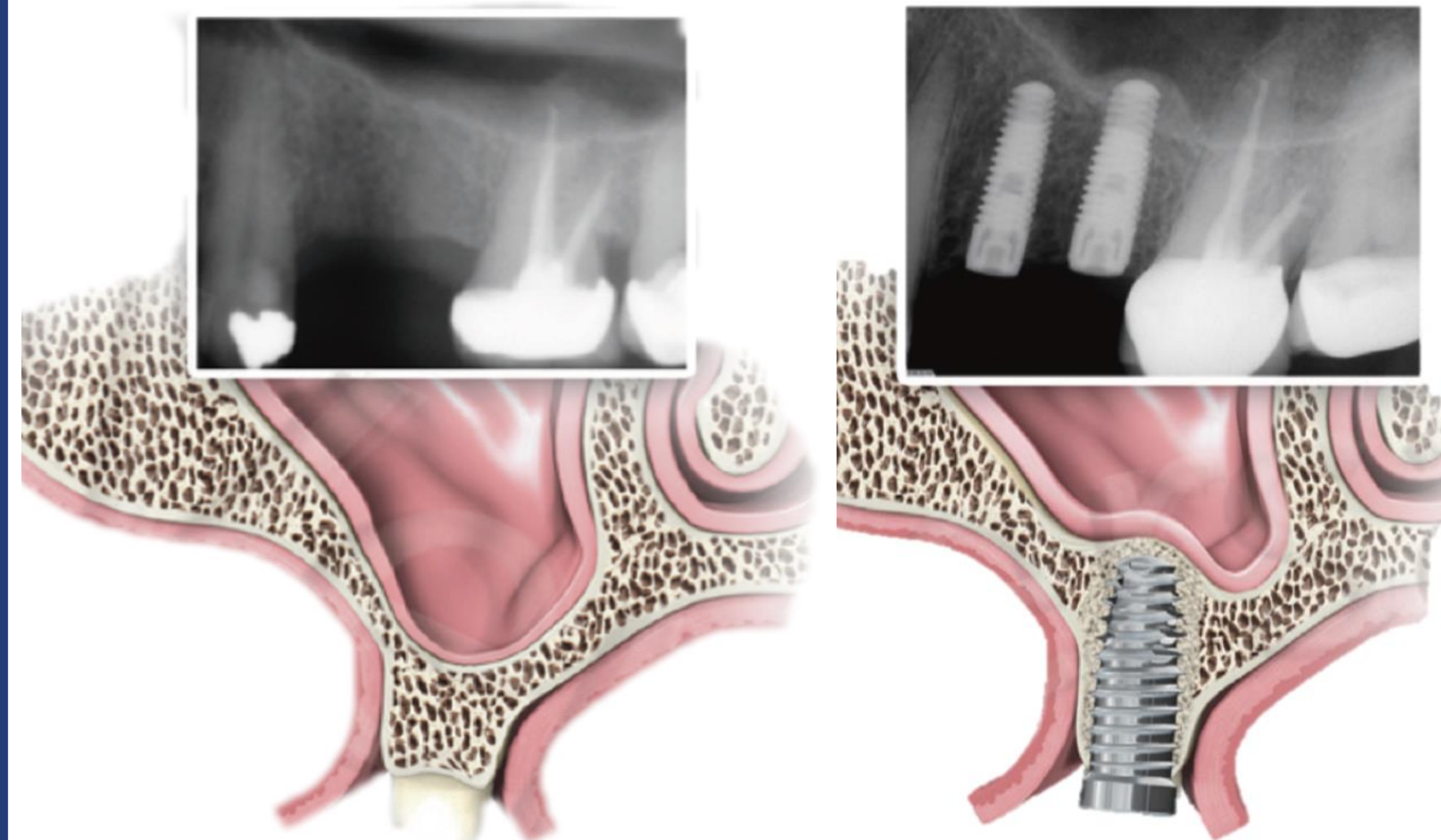
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Background

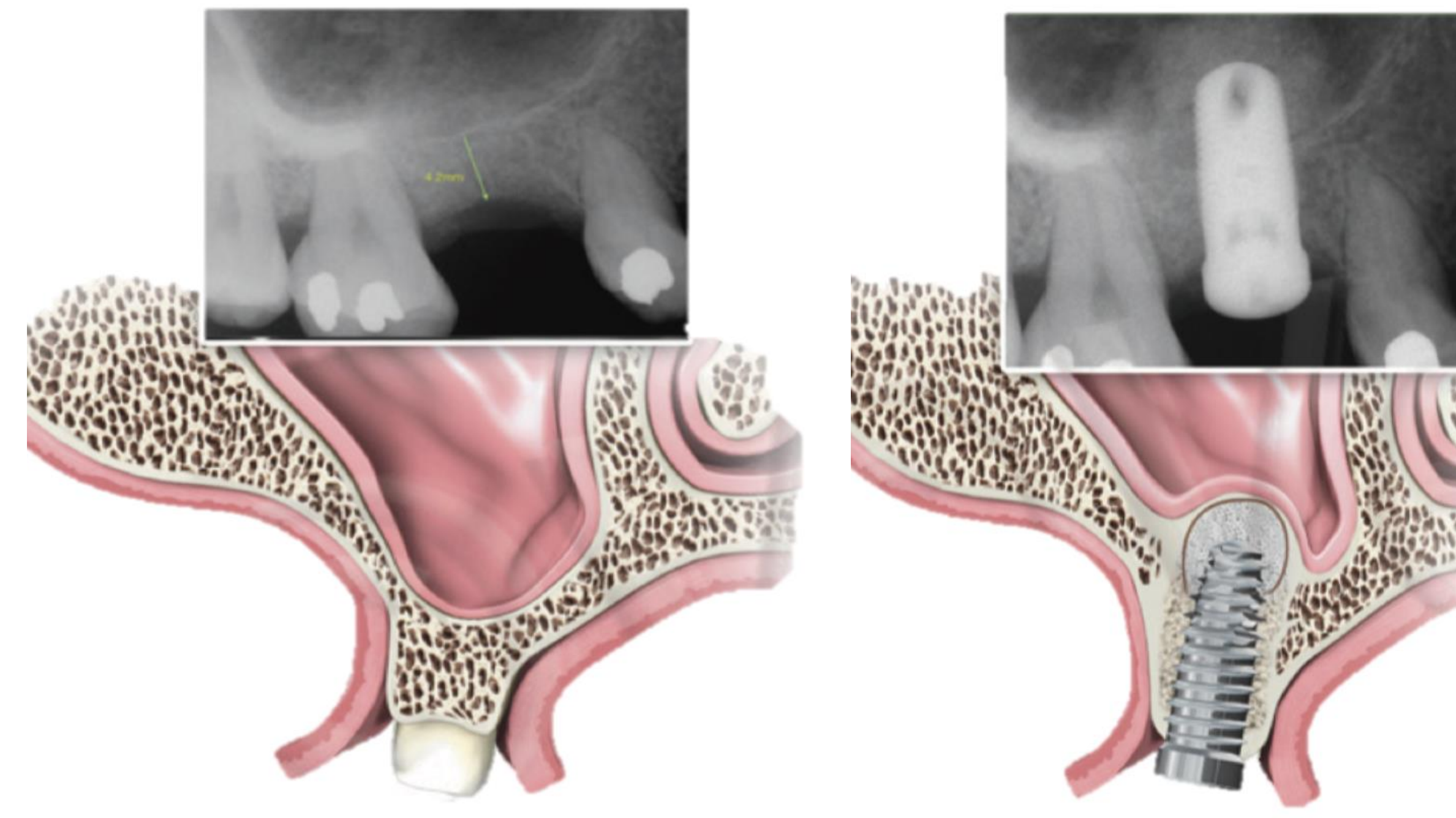
- There is **limited** research examining the **compaction grafting technique** using **osseodensification** burs for **transcrestal** sinus augmentation, first proposed in **2014**.

Protocol 1*



- Min RBH: **>6mm**
- Min Alveolar Width: **4mm**
- Bone graft: **Autograft**

Protocol 2*



- Min RBH: **4-5mm**
- Min Alveolar Width: **5mm**
- Bone graft: **Allograft and Xenograft (additional)**

Protocol 3*

- Min RBH: **2-3mm**
- Min Alveolar Width: **7mm**
- Bone graft: **Allograft and Xenograft (additional)**



Aims & Objectives

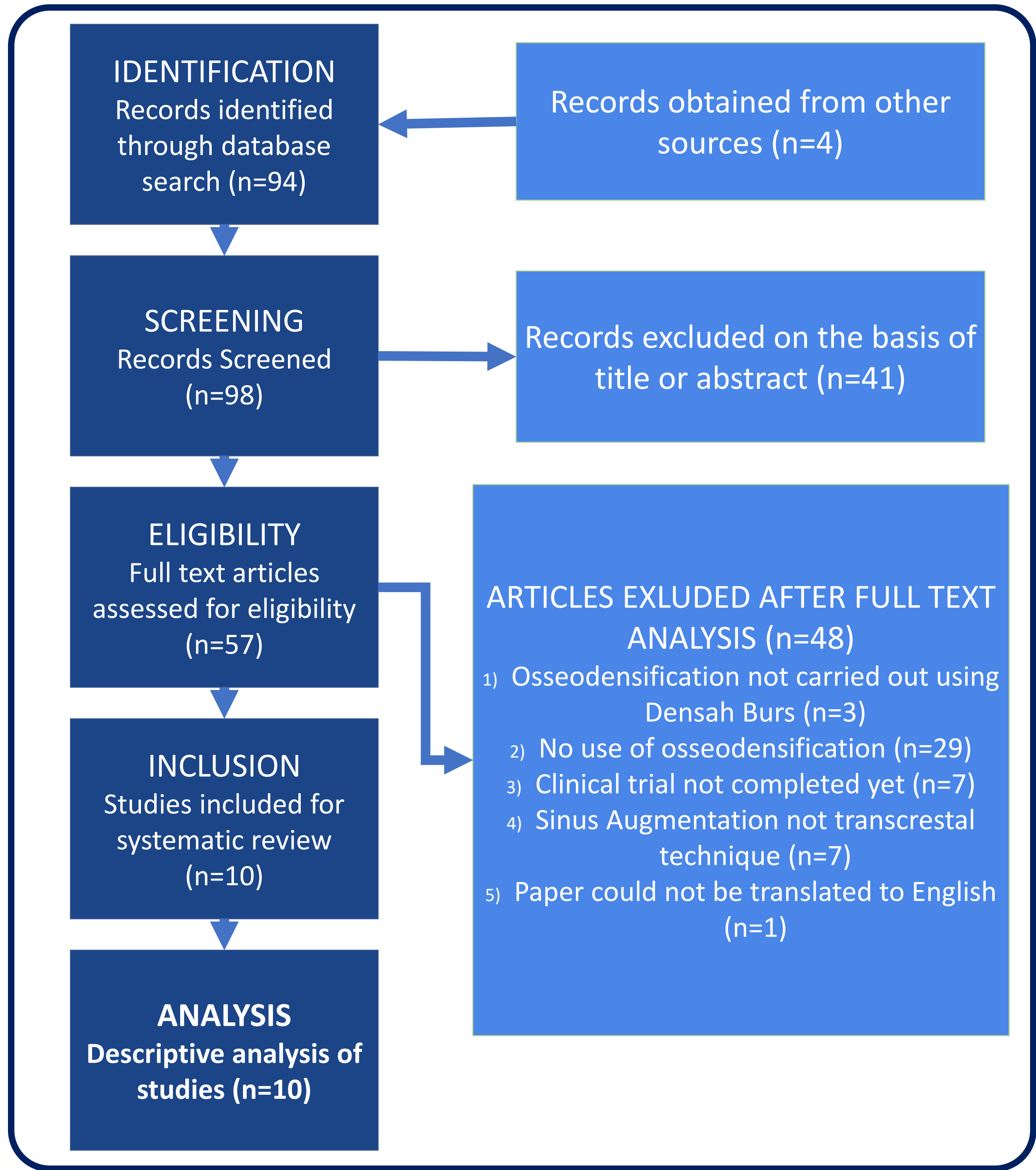
- Present a **Systematic Review and Meta-Analyses** on published uncontrolled studies to examine this effect **osseodensification burs for transcrestal sinus augmentation**.
- Present a **series of cases** that evaluate the company's **protocol effectiveness** and provide **recommendations to minimize complications**.

1. Systematic Review & Meta Analysis

Materials & Methods

- Following PRISMA guidelines
- Published literature from 01/2014 – 02/02/2022
- Mesh Terms:**
"osseodensification" OR "densah" OR "condensation" OR (MH "Autografts") OR "compaction" AND (MH "Sinus Floor Augmentation") OR "Sinus lift" OR "Sinus elevation" OR "posterior maxilla"

Preliminary Results



Author,yrs	Study type	Sites lifted	Primary Stability	Vertical Gain	Perforations	Survivability	Residual bone height	Post op (PA vs CBCT)
H. 2018	Retrospective clinical study	261	Not listed	7.05mm	0	97% (8 fails)	5.4mm	Both
R. 2021	Randomized clinical trial	5	Not listed	1.8mm +/- 0.4	0	100%	8.1mm ± 1.5	CBCT
K. 2018	Case series	34	Not listed	3.43mm	0	100%	4mm	CBCT
S. 2021	Case report	3	Not listed	11.9mm	0	Lift only with BG, no implant placement	0.4-1.5mm	Both
P. 2021	Case series	3	30NCm	4-6mm	0	Not assessed	3.5mm avg	Both
N. 2018	Case report	21 (OD alone)	36.4Ncm (OD alone)	2.8mm (OD alone)	0	100%	Not listed	Not listed
		21 (OD with putty)	39.1Ncm (OD with putty)	5.9mm (OD with putty)	0	100%	Not listed	Not listed
P. 2018	Case report	2	N/A	<3mm	0	Not listed	5mm	PA
G. 2017	Case report	1	N/A	5-6mm	0	100%	5mm	Both
A. 2019	Prospective clinical study	12	65.17 ISQ	3.33mm	0	100%	7.38mm	CBCT
R. 2022	Case report	1	Not listed	3.01mm	0	100%	5mm	Both

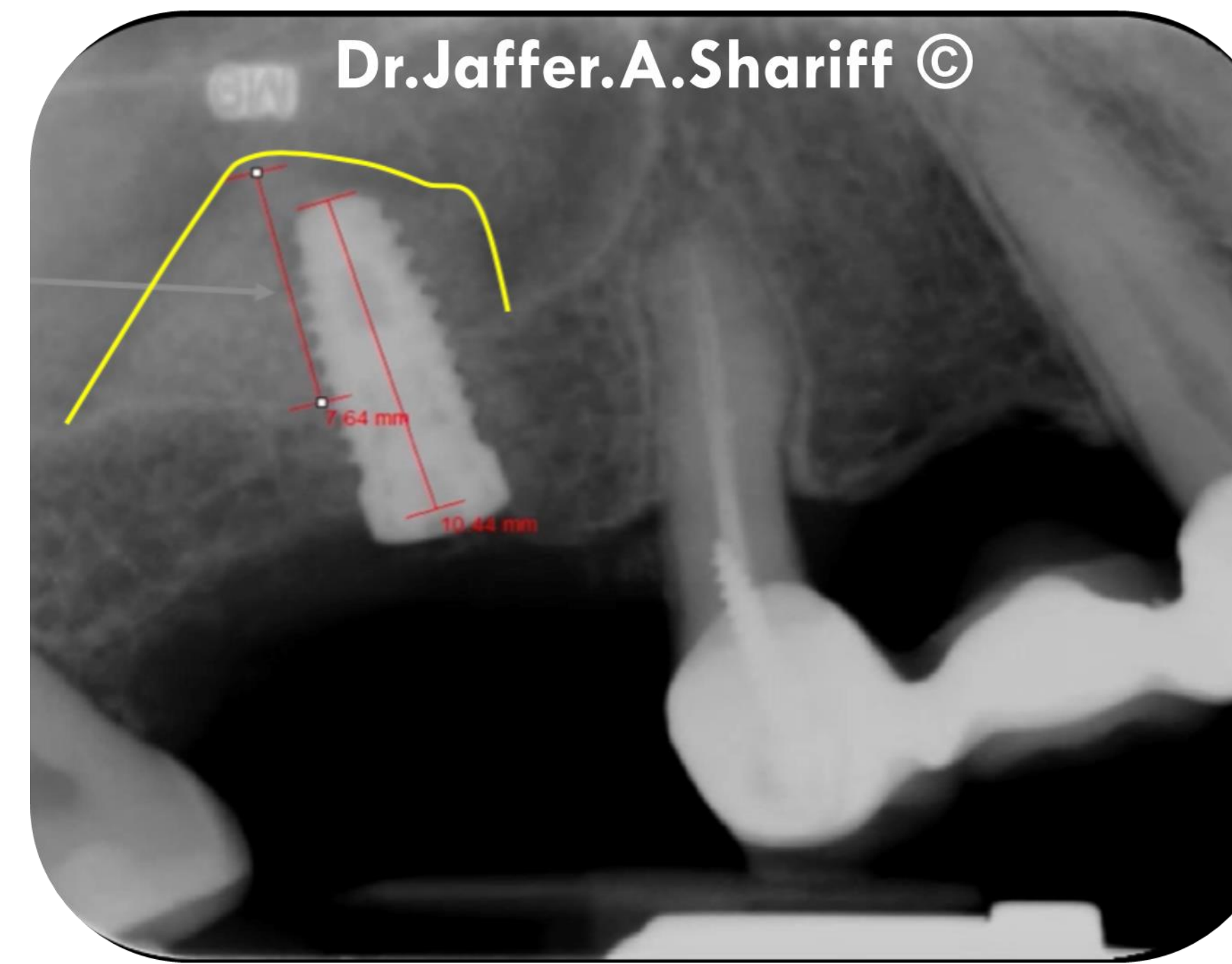
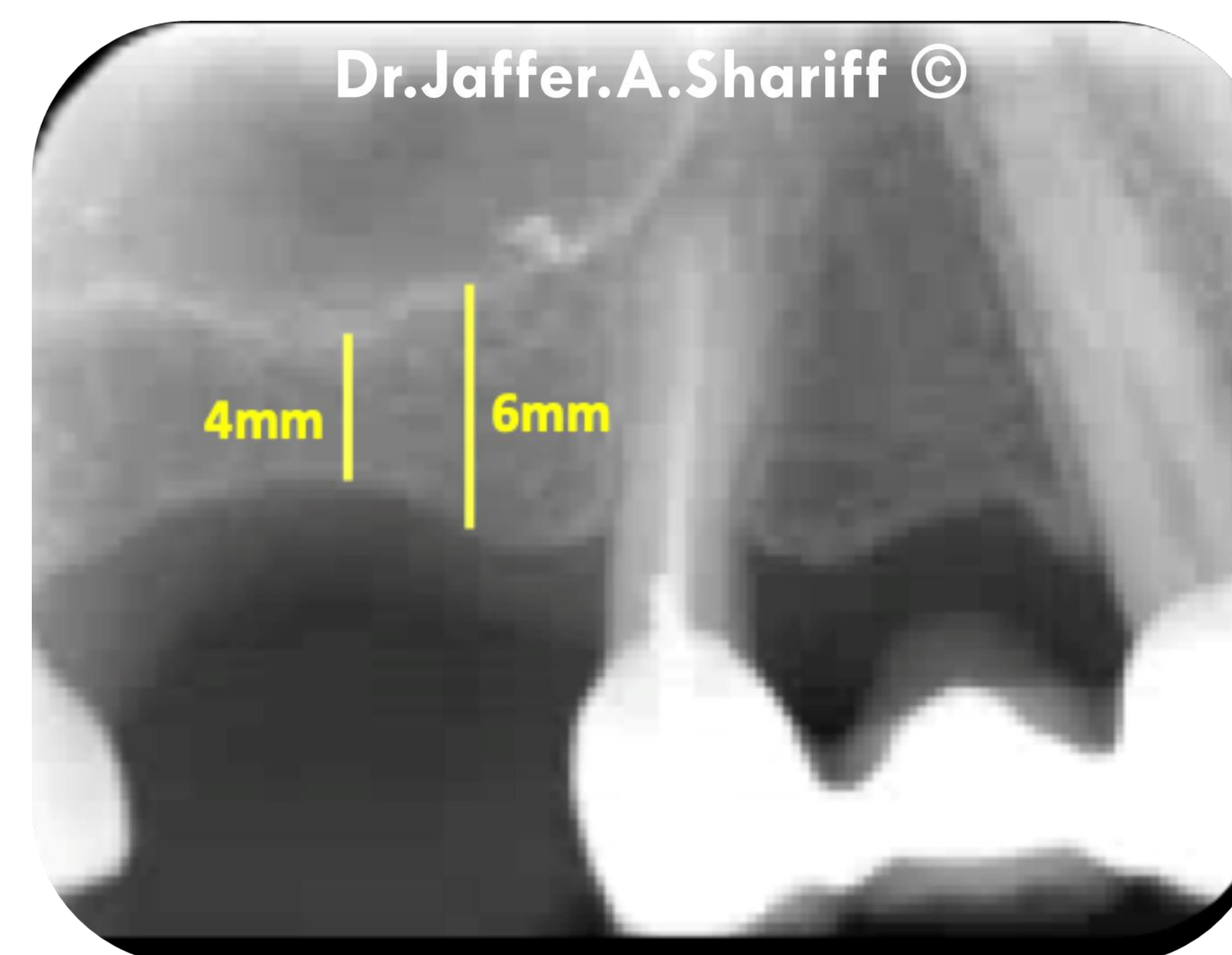
2. Case Series

Materials & Methods

- ☐ **40 patients** received transcrestal sinus augmentation with simultaneous implant placement
- ☐ All cases were performed by a **single provider (JAS)** with modest modifications applied to the drilling and bone grafting protocol.
- ☐ Bone Graft: **Allograft**
- ☐ Implant: Bone Level Tapered
- ☐ **Factors assessed**
 - Vertical gain
 - Sinus perforation
 - Primary stability (Torque)
 - Surgical and post surgical complications
 - Implant survival

Protocol 2 Scenario

- Min RBH: **4-5mm**
- Min Alveolar Width: **5mm**



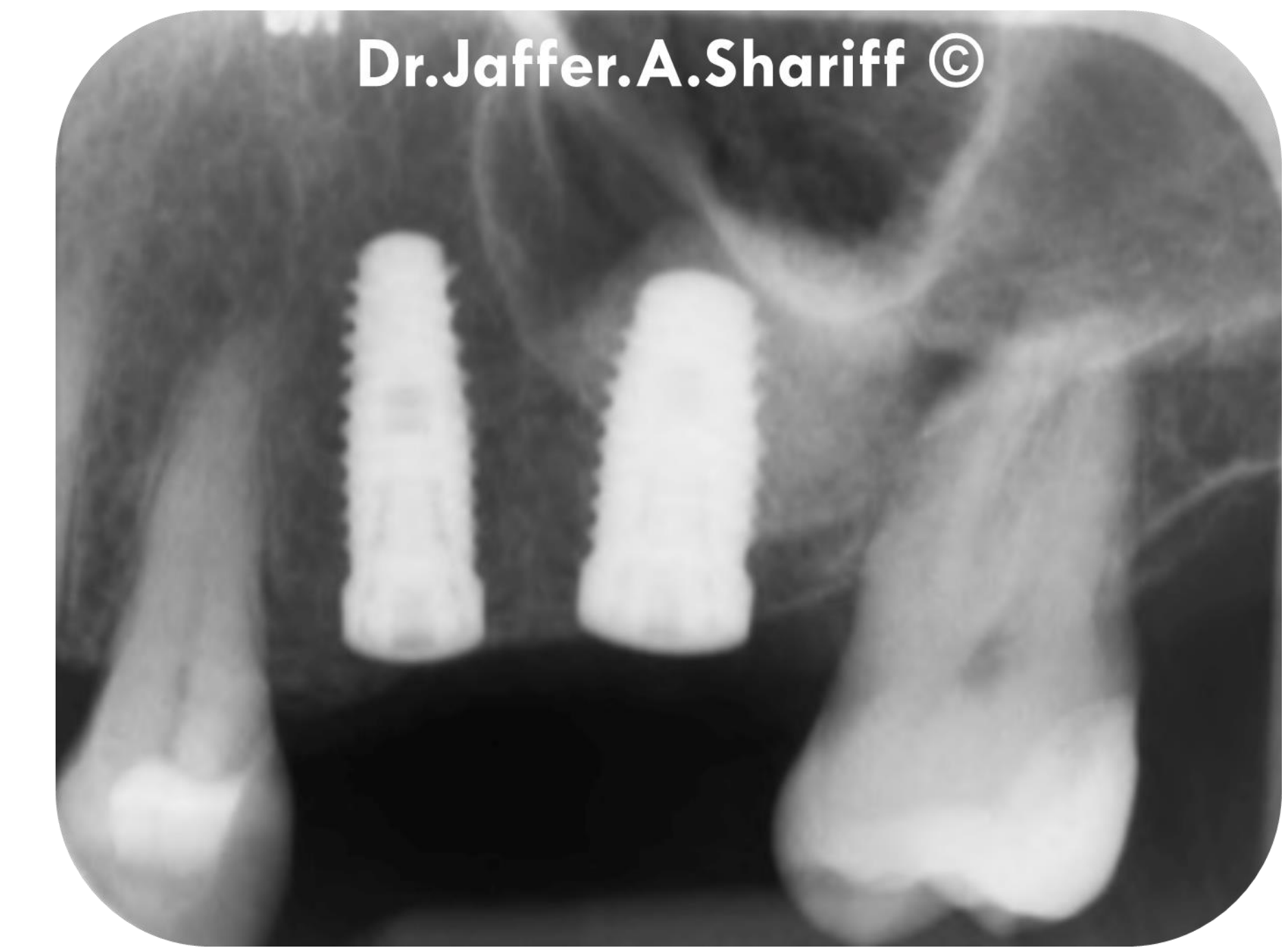
Vertical gain: 7-8mm



Vertical gain: 7-11mm

Protocol 3 Scenario

- Min RBH: **2-3mm**
- Min Alveolar Width: **7mm**



Vertical gain: 5-11mm



Vertical gain: 8-12mm

Case Series Preliminary Results

Author, yrs	Study type	Scenario	Cases	Primary Stability	Vertical Gain	Perforations	6 mo Survivability	Residual bone height	Post op (PA vs CBCT)
Shariff 2022	Retrospective clinical case series	Protocol 2	26	30 - 50+ Ncm	3 – 9 mm	0	100%	4 - 6 mm	90% PA
		Protocol 3	14	20 - 40 Ncm	5 – 12 mm	0	100%	1 – 6 mm	70% PA

Conclusion

❑ Systematic review/Meta-analysis

- Preliminary reports from the systematic review shows successful results in augmenting the sinus floor
- Early data show **excellent vertical gains** among **varying RBH**
- Minimal complications
- High implant survival
- No perforations

❑ Case Series

- Modest modifications to companies protocol showed to be **as/more effective** in augmenting the maxillary sinus floor
- Avg VG = **7-8 mm across both protocol scenarios.**
- Technique **less traumatic** than traditional osteotome approach and less invasive than lateral window
- **No** surgical or post-op complications

Limitations

1. No all cases have post-op CBCT
2. No ISQ – primary stability with torque (Ncm) only