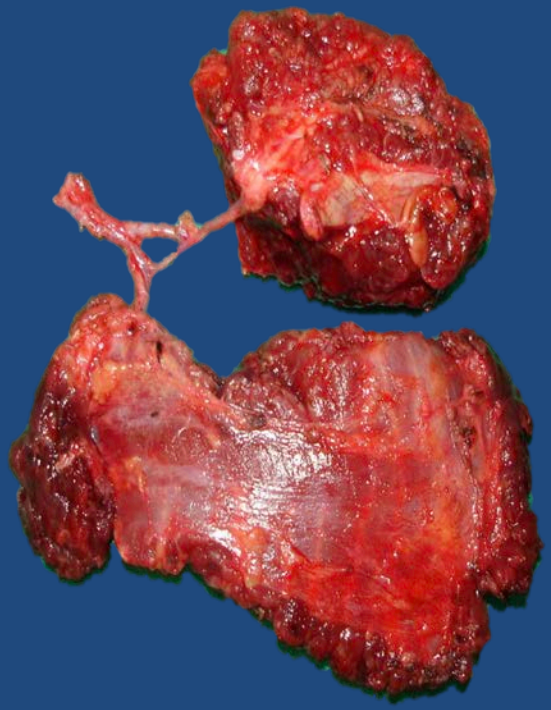
Maxillary Reconstruction with Iliac Crest Free Flap, Using Vascular Loops and Intraoral Anastomosis.



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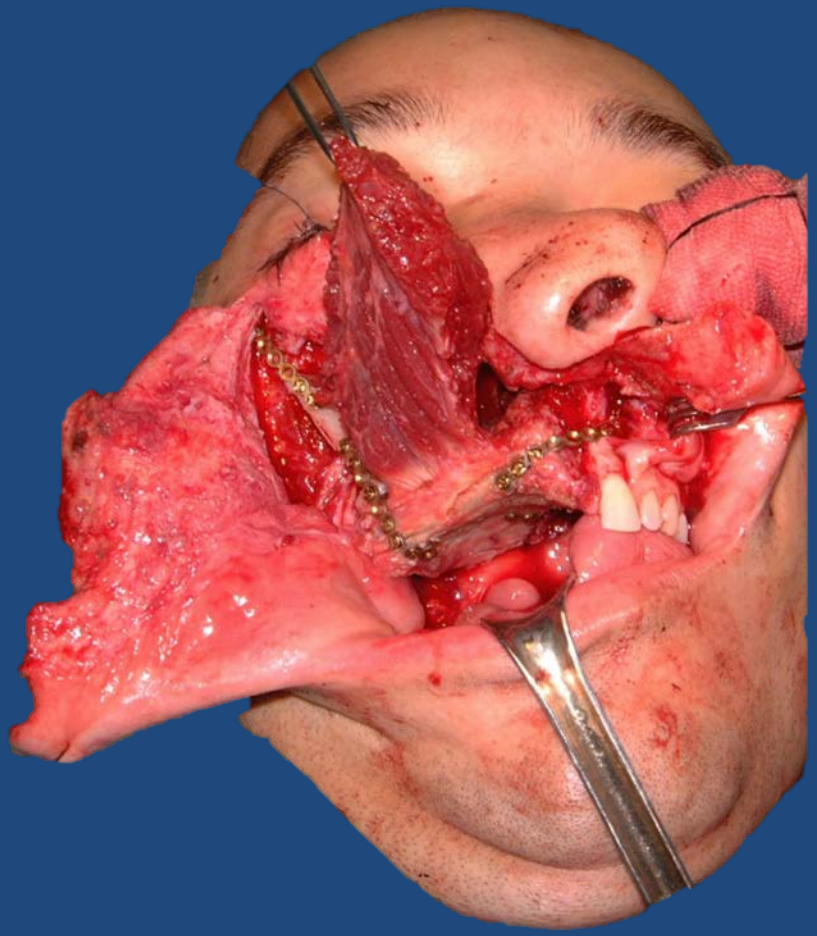
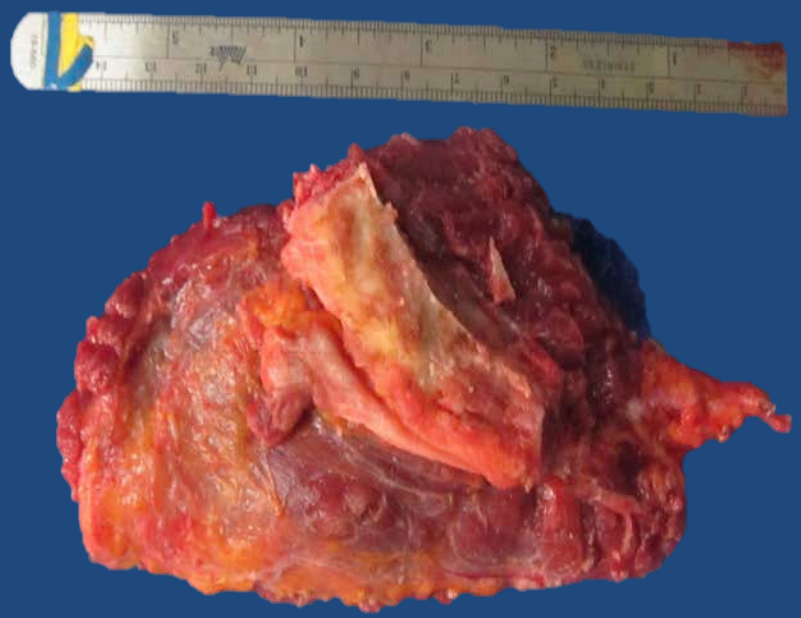
Disclosure: Nothing to disclose.

According to the principle of “replacing like with like”, our preferred choice for reconstruction for complex upper palatal maxillary defects is the iliac crest free flap.

The internal oblique muscle included in the flap gives support to cheek and nose, minimizes dead space, and (if they're needed) covers bone grafts.



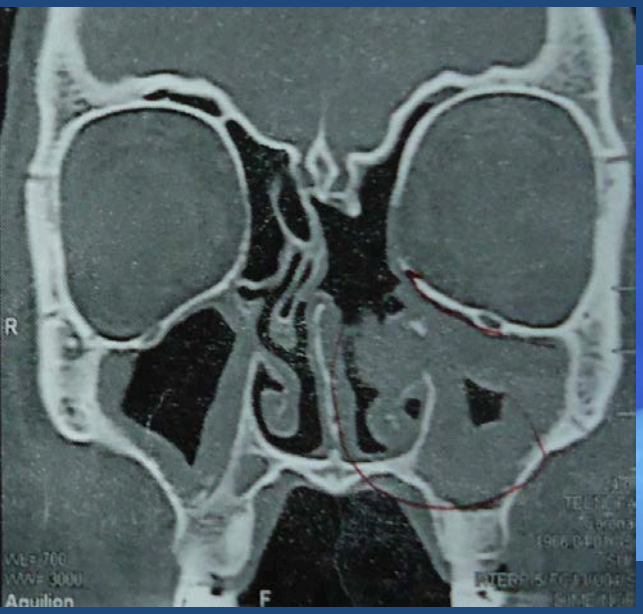
Iliac crest free flap has a relatively short pedicle that makes its positioning challenging; this is even more difficult when the pedicle has to be placed posteriorly.



Materials and Methods

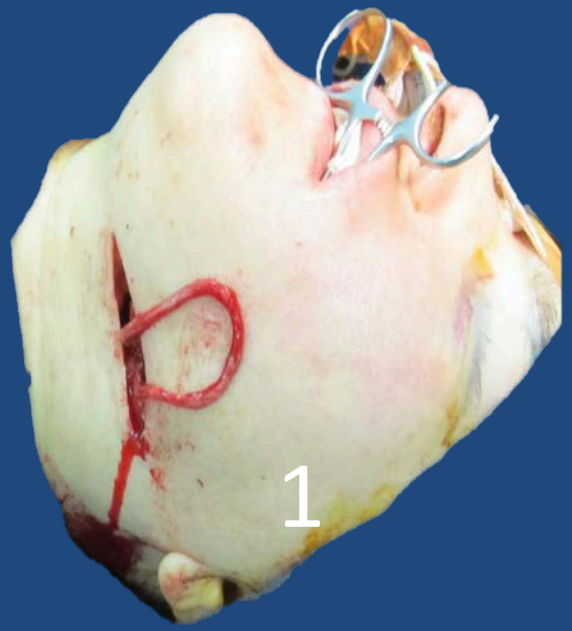
We review a series of seven cases of maxillary reconstruction with iliac crest free flap, all of which used vein grafts and intraoral anastomosis and were performed between June 2010 to June 2017.

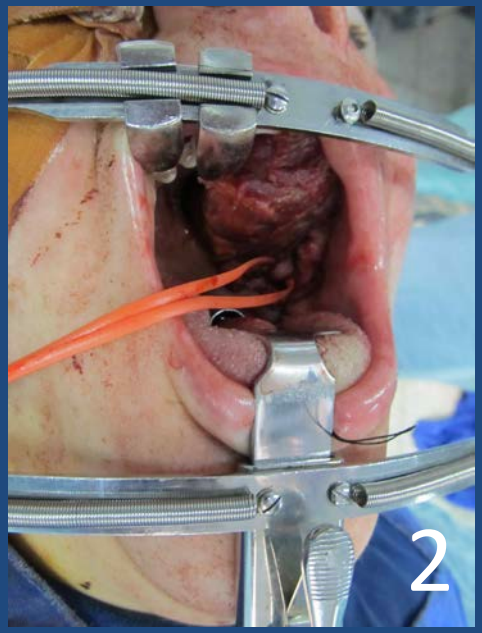
CLINICAL CASE 2

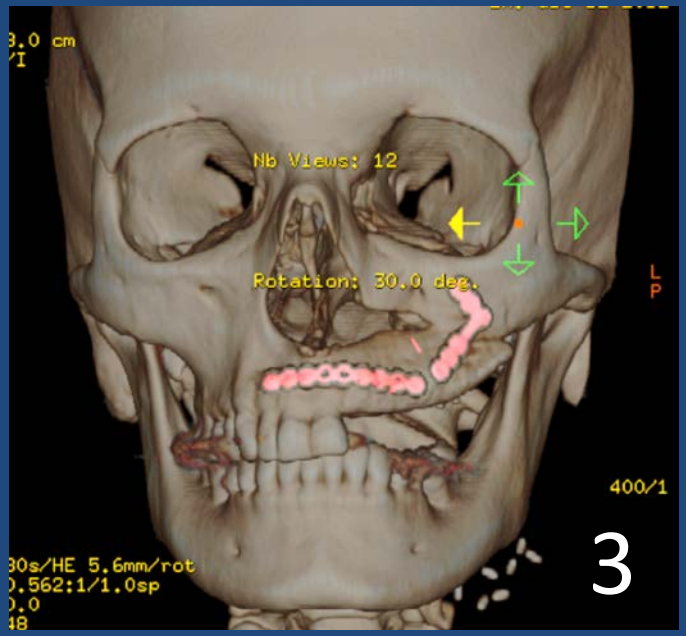


42-year-old patient underwent hemi-maxillectomy. Design of the osteotomy and surgical resection (1 and 2). Resulting maxillary defect (3).

CLINICAL CASE 2







1. Arteriovenous shunt between facial vessels with a vein graft. 2. Intraoral view; the AV shunt has been passed through the cheek and is held by a vessel loop. 3. Postoperative CT scan.

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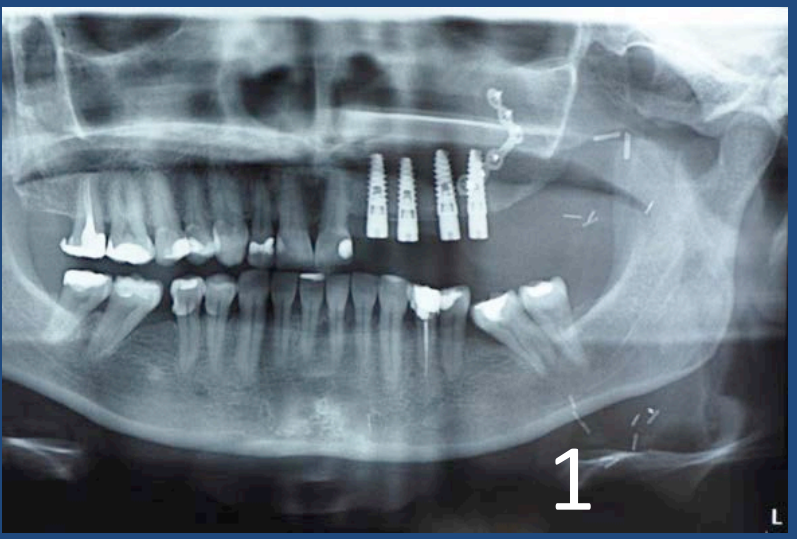
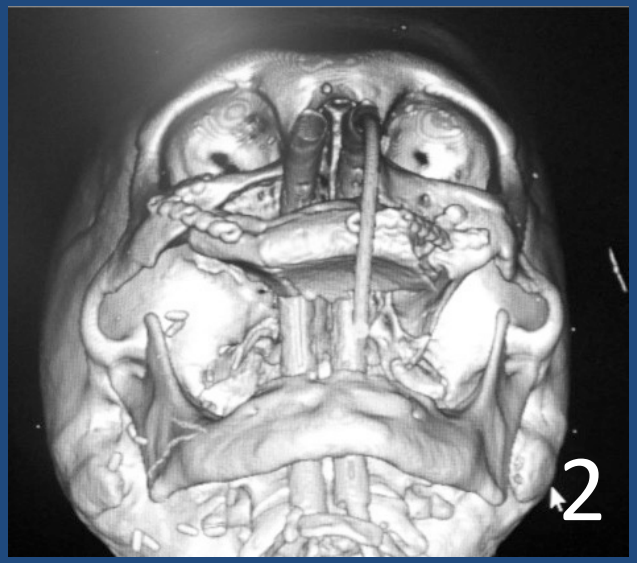


1. Panoramic X-rays showing dental implants in the transplanted iliac crest. 2. Oral rehabilitation 3. Postoperative intraoral view once the internal oblique muscle has epithelized.

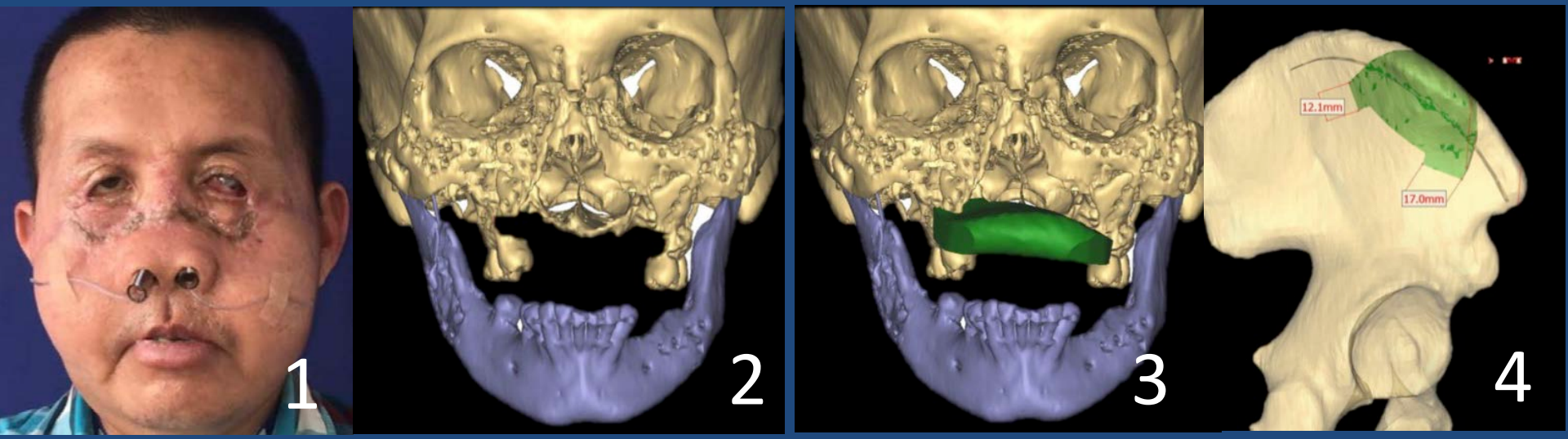
CLINICAL CASE 5

Squamous cell carcinoma preoperative picture (1), schema of the resection (2), complete infrastructure maxillectomy (3), vein graft creating an AV shunt before it's passed through the cheek (4).

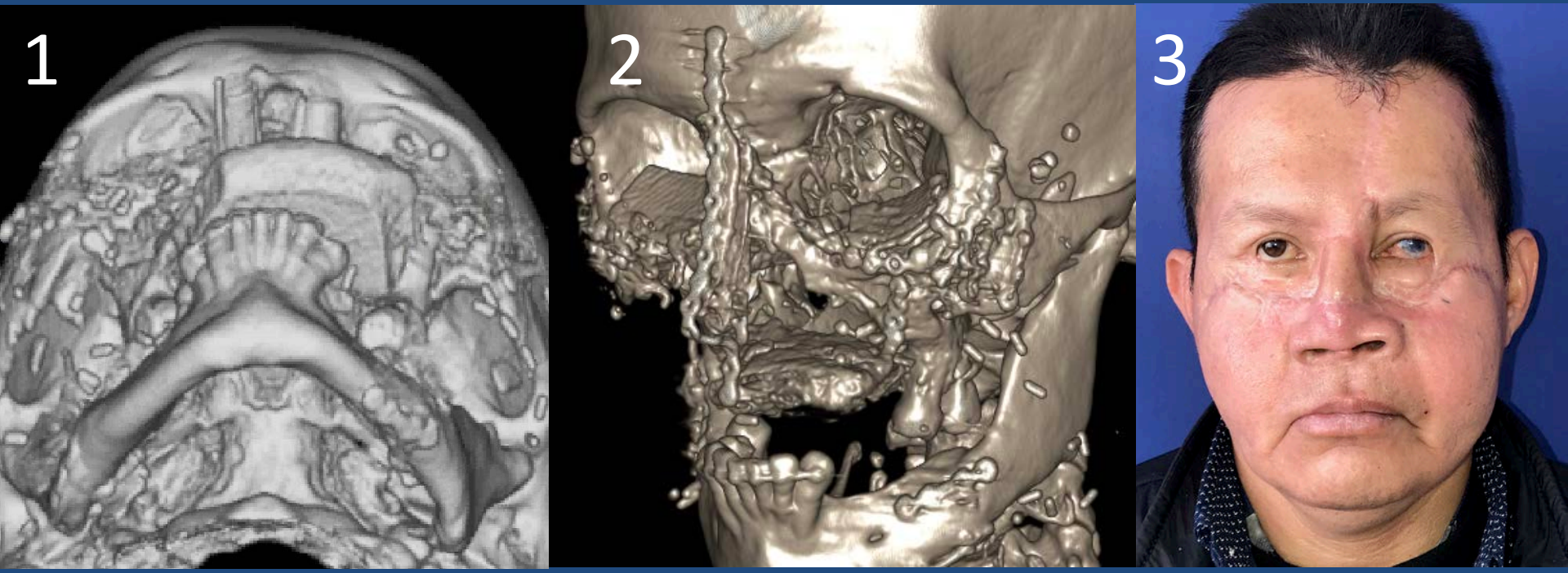


1. Flap has been inserted, intraoral anastomosis will be performed (yellow micro-clamp in the AV loop). 2. Postoperative CT scan showing the bent iliac bone (osteotomy) 3. Postoperative intraoral view once the internal oblique muscle has epithelized.

CLINICAL CASE 7



35 years old patient with a maxillary defect after a motorcycle accident. Preoperative deformity (1 and 2). Preoperative planning for an iliac crest free flap (3 and 4).



Postoperative CT Scan after maxillary reconstruction (1) and after nose reconstruction (2). Postoperative picture after sub periosteal suspension, maxillary and nose reconstruction (3).

Results

Using this technique, maxillary reconstruction was successful; oral intake was restored after 3 weeks postoperative.

The Average follow-up period was 13 months; no oronasal fistulas or major complications were encountered.

Conclusion

- Using vein grafts to create vascular arterio-venous shunts and performing intraoral anastomosis represent useful strategies to overcome the challenge of positioning the iliac crest free flap in maxillary reconstruction.