

Utilization of a Next Generation Decellularized Dermal Allograft to Augment the Repair of a Partial Right Maxillectomy and Tooth Extraction after Metastatic Prostate Cancer and Osteoradionecrosis of the Jaw

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Surgical Summary

Clinical Presentation:

- 71 year-old male with history of metastatic Castrate-Resistant Prostate Cancer (CRPC) with bone metastasis. Treated previously with multiple chemotherapeutic regimens.
- Patient reports he had a dental extraction (#5) by a general dentist 8 months prior and has had continuous drainage, exposed bone, foul odor and pain since extraction. At that time, told to hold chemotherapeutics until mouth healed.
- Patient reported that he had a CT scan done a month prior due to lack of healing. His oncology team instructed him to follow up with Oral and Maxillofacial Surgery (OMFS) for possible osteonecrosis vs. osteomyelitis of the jaw.
- Diagnosed with probable medication-related osteonecrosis of the jaw (MRONJ); Surgery scheduled.

Intraoperative Findings:

- Necrotic maxillary alveolar segment involving teeth #2, 3, 4, 6.
- Infected granulation tissue within right maxillary sinus.

Surgeon Perspective:

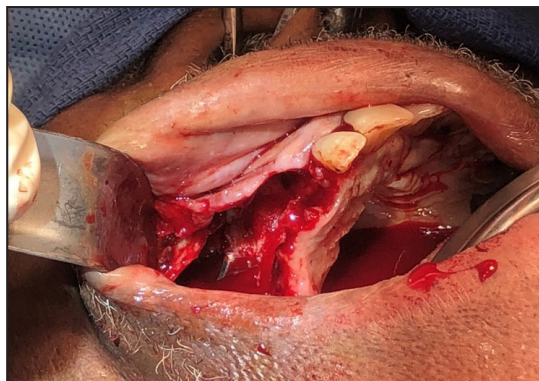


Figure 1. After tooth extraction and debridement.

“With the total loss of sinus mucosa and structural integrity of the maxilla, there was a high risk of surgical site dehiscence and oral-antral fistula. The use of the internal membrane closure with DermaPure® avoided wound dehiscence, promoted healing, and helped maintain structural integrity of the maxillary nasal complex.”

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Surgical Procedure:

- Extractions of teeth #2, 3, 4, 6 due to mobility and dehiscence (Figure 1).
- Debridement of right maxillary sinus and partial right maxillectomy performed related to the right maxillary sinus communicating with the oral cavity due to the extensive osteolysis of the floor of the antrum.
- Mobilization of full thickness buccal and palatal rotational flaps for advancement over the alveolar defect.
- Creation of right nasal antrostomy from right nasal cavity after debridement of granulation tissue and necrotic bone.
- Reconstruction with soft tissue graft (DermaPure[®] decellularized dermal allograft): A DermaPure[®] graft measuring 4 cm x 6 cm was used to obliterate the defect of the right maxillary sinus; two anchorage holes were created using a hall drill and a 2.4 mm round bur in the anterolateral wall. DermaPure[®] was sutured to palatal flap and posteriorly to the maxillary tuberosity area (Figure 2). The buccal free margin of DermaPure[®] was interposed between the periosteum and the anterior surface of the right piriform area. The buccal flap was rotated over the DermaPure[®] graft and secured with multiple interrupted 3-0 silk and Vicryl[®] sutures to the palatal flap (Figure 3).

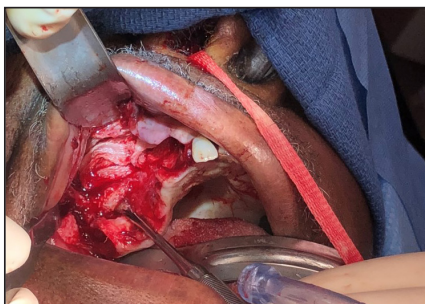


Figure 2: After implantation of DermaPure[®] graft



Figure 3: After flap closure



Figure 4: Complete healing after 3 weeks

Post-Operative Note:

- Full healing of wound in 3 weeks (Figure 4).
- Able to eat without difficulty.

DermaPure[®] Implantation:

- 4 cm x 6 cm
- Basement membrane outer-most

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