

# Acellular Dermal Matrix: Treating Periocular Melanoma in a Patient with Xeroderma Pigmentosa

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We report a 7-year-old girl with xeroderma pigmentosum (XP), who presented in our clinic with a large melanoma (35 × 50 × 20 mm, Breslow depth 18 mm) in the zygomatic-malar area. Palliative surgery was performed to maintain her residual vision and to reduce the pain caused by the compression of local structures. Because of the limited access of autologous skin grafts in pediatric patients with XP who are severely affected, we opted to use an acellular dermal matrix. There was 100% graft uptake, and the pain due to compression by the tumor was alleviated. This case demonstrates that acellular dermal matrices can be safely and effectively used in oncological facial reconstruction, especially in patients with progressive conditions such as XP. (*Plast Reconstr Surg Glob Open* 2017;5:e1442; doi: 10.1097/GOX.0000000000001442; Published online 22 August 2017.)

**X**eroderma pigmentosa (XP) is a rare autosomal recessive condition, which is complicated by early onset of skin carcinomas in young patients. The condition was first described by Karposi and Hebra in 1874<sup>1</sup> and there have since been a number of reports in the literature, describing the course of this disease.<sup>1-4</sup> Although squamous cell carcinomas predominate in the sun-exposed areas of these patients, it is not uncommon to develop malignant melanomas.<sup>3</sup>

Large melanomas of the face pose a reconstructive challenge due to the extensive margins required for cure. In patients with XP, reconstruction often poses an even greater challenge due to the presence of contiguous and co-incidental tumors, precluding the use of local flaps as a reconstructive option.

We present a 7-year-old girl with XP from Zimbabwe. Over a 3-year period, she presented with a myriad of both benign and malignant skin tumors. These included keratocanthomas, basal and squamous cell carcinomas, and melanomas, requiring multiple excisions over a few years. In January 2016, she presented with a large melanoma (35 × 50 × 20 mm with a Breslow depth of 18 mm) on her left zygomatic-malar area. The tumor involved her left lower eyelid, partially occluding the remaining vision in her only functional eye.

Although staging investigations showed no signs of metastases, curative surgery was not considered an option due to the risk of blindness in this patient with an

already poor prognosis. Palliative surgery was performed to maintain her residual vision and to reduce the pain caused by the compression of local structures. The defect postexcision exposed the infraorbital margin and the entire lower lid up to the palpebral conjunctiva (Fig. 1). There were limited local flap options available, and skin grafting is usually complicated by poor aesthetic results including contour defects, distortion of aesthetic subunits, and ectropion. Furthermore, in view of the progressive nature of XP, the patient was not considered a candidate for free flap surgery. We therefore opted to



Fig. 1. Intraoperative view of ADM in situ.

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**Fig. 2.** Excellent graft-take 5 days post-application of split skin graft.

use an acellular dermal matrix (ADM). *Integra* (Integra Life Sciences Corporation, Plainsboro, N.J.) is a bilayered artificial skin replacement with a “dermal” layer composed of bovine collagen gel cross-linked with shark chondroitin-6-sulfate.

ADMs confer the advantage of reduced contour defects, less contraction of the wound bed, improved donor-site morbidity, and acceptable aesthetic results.<sup>4</sup> ADMs, however, are expensive, prone to infection, and requires hospitalization for staged operations and ultimately split-skin grafting once incorporated into the wound bed.<sup>5</sup>

After tumor excision, the ADM was inset with absorbable sutures (5/0 catgut) and covered by a nanocrystalline-silver and bolster overlay dressing. This was replaced every 7 days and after 3 weeks, a split-thickness skin graft was applied to the ADM. The end result (Fig. 2) was aesthetically acceptable with 100% graft take. The patient only had minimal ectropion at 6 weeks postoperatively. Most importantly, the patient’s vision was improved and the pain that she was experiencing due to compression by the tumor was also alleviated.

This case demonstrates that ADMs can be safely and effectively used in oncological facial reconstruction especially in patients with progressive conditions such as XP.

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### PATIENT CONSENT

*Parents or guardians provided written consent for use of the patient's image.*

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