

# Acellular Human Extracellular Matrix For Necrosis Of Skin And Subcutaneous Tissue Post Mastopexy

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## INTRODUCTION

Mastopexy is one of the most performed cosmetic surgical procedures in the U.S. The overall complication rate has been reported to be 10.4%.<sup>1</sup> A prior systemic review of 34 studies, published from 1980 through 2016 revealed that the most common complications were scar-related and nipple-areola-related problems.<sup>1</sup> The goal of this case report is to highlight a new technology, acellular human extracellular matrix\* (AHEM), used as an adjunct therapy in the reconstructive ladder, closure by secondary intention.

## METHODS

This is a case report of a 48-year-old female with bilateral necrosis of skin and subcutaneous tissue status post a mastopexy procedure (Figure 1) in 2022. She previously underwent a lumpectomy on left breast and peri-areolar mastopexy bilaterally in 2014. Post the mastopexy the patient was followed on a weekly basis in the outpatient setting for the post-surgical complication of skin and subcutaneous necrosis in the peri-areolar region. where surgical debridement and application of an acellular human extracellular matrix was applied to the wound beds. The patient was followed until complete epithelialization of the targeted wounds was achieved.

## RESULTS

On the day of the patient's initial presentation the bilateral peri-areolar areas of necrosis were surgically debrided, and an acellular human extracellular matrix particulate was applied (Figure 2a & 2b). Patient returned to clinic on day 7 with observed improvement in the granulation tissue in the wound base (Figure 2c & 2d). The acellular human extracellular matrix particulate was reapplied. The examination of the peri-areolar wounds on Day 14 demonstrated a reduction in total wound surface area (Figure 2e & 2f).

\*Acellular human extracellular matrix = AXIOFILL (MIMEDX Group, Inc., Marietta, GA, US)

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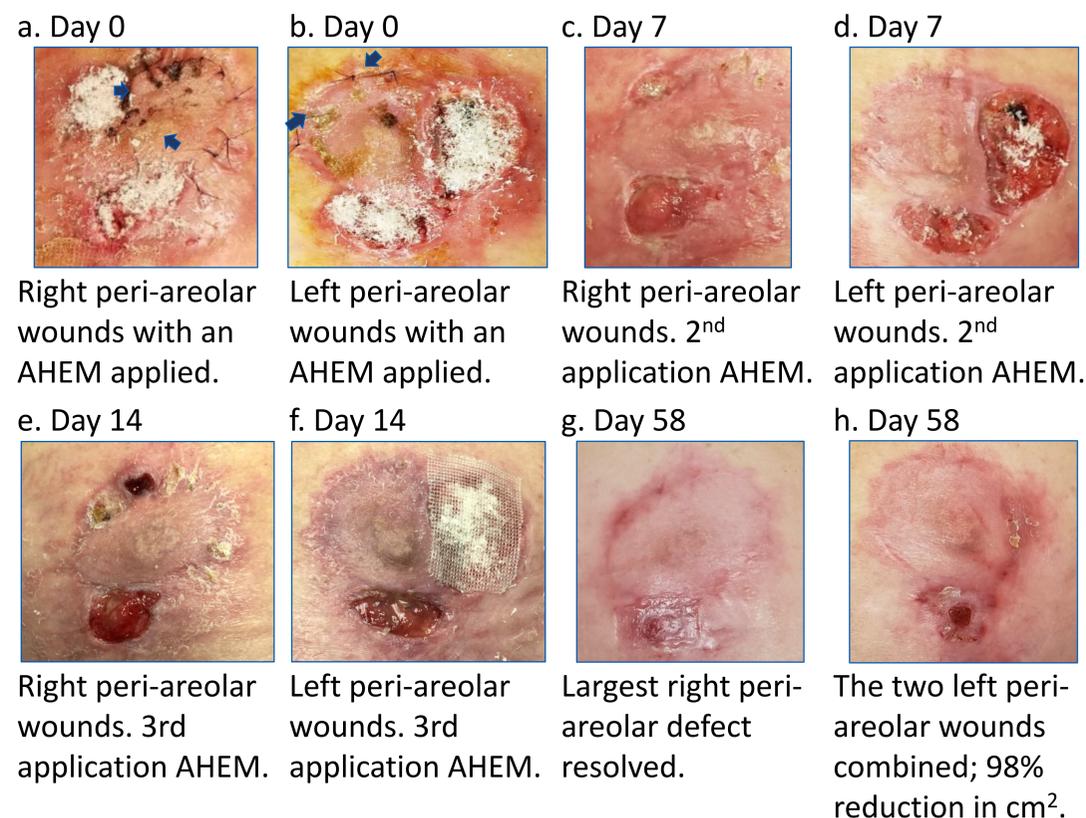
## RESULTS

Figure 1.



Bilateral necrosis of skin & subcutaneous tissue status post a mastopexy procedure.

Figure 2.



Right peri-areolar wounds with an AHEM applied.

Left peri-areolar wounds with an AHEM applied.

Right peri-areolar wounds. 2<sup>nd</sup> application AHEM.

Left peri-areolar wounds. 2<sup>nd</sup> application AHEM.

Right peri-areolar wounds. 3<sup>rd</sup> application AHEM.

Left peri-areolar wounds. 3<sup>rd</sup> application AHEM.

Largest right peri-areolar defect resolved.

The two left peri-areolar wounds combined; 98% reduction in cm<sup>2</sup>.

## RESULTS

Figure 3.



Follow-up on Day 58

## RESULTS

A third application of the acellular human extracellular matrix particulate was performed. When the patient followed up with her provider on day 58, the examination revealed the largest right peri-areolar defect was resolved and the surface area of the two left peri-areolar wounds combined were reduced by 98%.

## CONCLUSION

This case demonstrated how acellular human extracellular matrix particulate (AHEM) can be used in the replacement or supplementation of damaged or inadequate integumental tissue. The long-term goal of closure via secondary intention was achieved. The surgeon and patient were very happy with the results, the formation of granulation tissue, and cosmesis. Further research into investigating acellular human extracellular matrix particulate is warranted to better understand its benefits in the treatment of skin and soft tissue defects.

## References

1. di Summa PG, Oranges CM, Wafra W, et al. Systematic review of outcomes and complications in nonimplant-based mastopexy surgery [published correction appears in *J Plast Reconstr Aesthet Surg.* 2019 Jun;72(6):1049]. *J Plast Reconstr Aesthet Surg.* 2019;72(2):243-272. doi:10.1016/j.bjps.2018.10.018.

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