

Letter to the Editor

Comparison between Silver's knife and Razor blade technique in harvesting ultrathin epidermal sheets; which one is better?

Rachita S. Dhurat¹, Akshay Arun Vetel¹, Priyanka Kowe¹, Srushti Zatakia¹

¹Department of Dermatology, Lokmanya Tilak Municipal Medical College, Sion Hospital, Mumbai, Maharashtra, India.



***Corresponding author:**
Dr. Akshay Arun Vetel,
Department of Dermatology,
Lokmanya Tilak Municipal
Medical College, Sion Hospital,
Mumbai, Maharashtra, India.
akkiii5858@gmail.com

Dear Sir,

Surgical methods have been proposed as a therapeutic option for patients with stable vitiligo, based on the common principle of transplanting autologous melanocytes from a normal pigmented area to the affected depigmented skin. Harvesting ultra-thin epidermal sheets is considered a fundamental skill and a crucial step in tissue grafting, as well as cellular grafting surgeries in treating vitiligo.^[1] Ultrathin grafts, without any dermal component, present cosmetically acceptable repigmentation at the recipient site and do not lead to significant scarring at the donor site.^[2]

The knife, drum-type dermatome, and electric dermatome are the three basic instruments used for harvesting skin grafts. In daily practice, ultrathin epidermal sheets are mostly obtained with a Silver's knife or a Razor blade. The Razor blade can be used by attaching it to artery forceps or with a guard.^[3,4]

Received: 27 September 2024
Accepted: 28 October 2024
Published: 10 December 2024

DOI
10.25259/CSDM_166_2024

Videos available online at
https://doi.org/10.25259/CSDM_166_2024

Quick Response Code:



Figure 1: The ultrathin epidermal sheet harvested using a Silver's knife on blade (A) is thinner than the one obtained with a Gillette Guard blade-1 on blade (B).

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, transform, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

©2024 Published by Scientific Scholar on behalf of CosmoDerma

Attaching a Razor blade to artery forceps presents disadvantages such as irregular graft thickness, lack of precision, difficulty in obtaining long continuous grafts, and uneven edges. Mukhtar innovated the use of Gillette Guard Blade-1 for the collection of ultrathin epidermal sheets.^[5] However, there is no comparative study between the two methods – Silver's knife and Gillette Guard Blade-1. Silver's knife features a Razor-blade holder carrying an ordinary three-holed blade with a guide to control the thickness of the skin cut, while Gillette Guard Blade-1 has a single-blade system with a safety guard.

We conducted a comparative study between Gillette Guard Blade-1 and Silver's knife on 10 patients of different ages and sexes. Silver's knife offered the thinnest graft compared to Gillette Guard Blade-1 in all subjects, also providing the advantage of long and uniform thickness grafts [Figure 1]. We have noticed that the Gillette Guard is best suited for bony areas and requires perpendicular pressure [Video 1], unlike the tangential force required with the Silver's knife during graft harvesting [Video 2]. Therefore, ergonomically, the Silver's knife provides enhanced precision and depth control [Video 2]. Adjusting the depth of grafts according to age, sex, and the donor site is crucial for obtaining ultrathin grafts. The cutting edge of Silver's knife was kept minimum for the donor site with bony prominence and in elderly patients. This adjustment is constrained with the Gillette Guard Blade-1.

Silver's knife is the instrument of choice for harvesting ultrathin grafts, offering enhanced precision with less procedural fatigue, showcasing its adaptability across various sites. Its ergonomic design, coupled with superior control, sets it apart from the Gillette Guard Blade-1, making it the preferred tool for surgeons, even for young trainees aiming for optimal outcomes in delicate procedures.

Ethical approval

Institutional Review Board approval is not required.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

REFERENCES

- Green NV, Speeckaert R. Acquired pigmented disorders. Griffiths C, Barker J, Bleiker T, Chalmer R, Creamer D, editors. Rooks textbook of dermatology. 9th ed., Vol. 88. Sussex: John Wiley and Sons; 2016. p. 34-40.
- Majid I, Imran S. Ultrathin split-thickness skin grafting followed by narrowband UVB therapy for stable vitiligo: An effective and cosmetically satisfying treatment option. *Indian J Dermatol Venereol Leprol* 2012;78:159-64.
- Ameer F, Singh AK, Kumar S. Evolution of instruments for harvest of the skin grafts. *Indian J Plast Surg* 2013;46:28-35.
- Huang K, Li J, Jiang Z, Fan H, Yu N, Liu D, *et al.* Razor blade: A simple instrument used in epidermal grafting for vitiligo. *J Am Acad Dermatol* 2021;84:e17-8.
- Mukhtar M. A novel use of gillette guard-1 blade for harvesting ultrathin Thiersch's graft. *CosmoDerma* 2023;3:14.

How to cite this article: Dhurat RS, Vetal AA, Kowe P, Zatakia S. Comparison between Silver's knife and Razor blade technique in harvesting ultrathin epidermal sheets; which one is better? *CosmoDerma*. 2024;4:144. doi: 10.25259/CSDM_166_2024