

Letter to Editor

Elliptical excision as a surgical approach for large plantar corns

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Dear Editor,

Plantar corns or helomas are circumscribed, sharply demarcated areas of hyperkeratosis due to repeated pressure and friction. These are caused by abnormal mechanical stresses, which can be both intrinsic and extrinsic.¹ Corn is a protective body reaction that produces an excess of horny epithelial layer to prevent skin ulceration. This explains the preferential location of corns next to the condyles of metatarsals and phalanges seen in most of the patients.² The foot is highly prone to developing corns because of the constant mechanical stress.³ Corn is composed of a cone-shaped wedge of compressed hyperkeratotic stratum corneum, which presses upon the adjacent tissues and nerves, causing severe pain.⁴ This makes treatment necessary for symptom relief.

Various treatment modalities have been described such as paring with scalpel blade, application of keratolytic agents (such as 10–15% salicylic acid), and surgical interventions such as punch excision and removal are effective. Some studies showed the use of cryotherapy, 1064 nm laser removal, and microwave energy as treatment options. Medical and conservative management for large hard corns can be challenging and may necessitate surgical removal.^{1,5-9}

We hereby describe an effective and reliable surgical approach for large plantar corns, measuring 4 mm or more in diameter, using an elliptical incision. Following adequate skin preparation, we achieved local anesthesia through injection of 1% lignocaine into the periphery. Measuring the widest diameter, the width is marked at the outer border of the corn. Extending further elliptical incision is made on either side. With the 15-number blade scalpel, incision is made to extend deeper [Figure 1a and b].



Figure 1: (a) Pre-treatment showing large corn. (b) Incision marked for excision.

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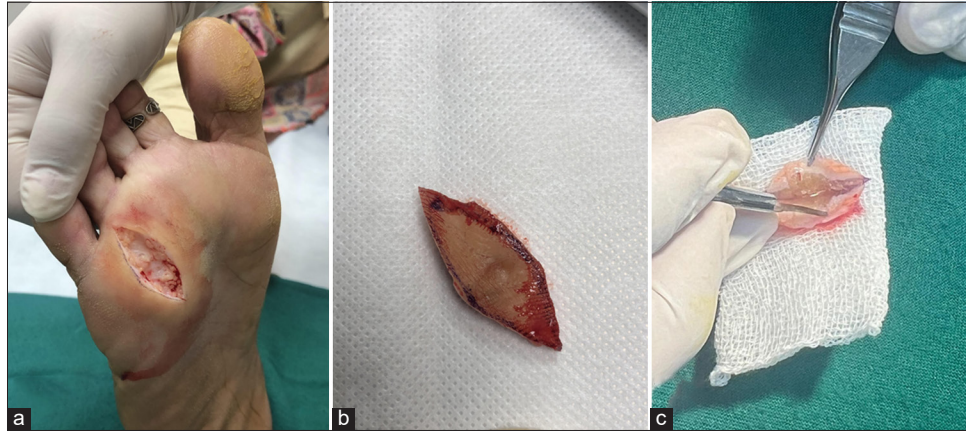


Figure 2: (a) Elliptically incised corn. (b) Excised tissue. (c) Longitudinal section showing the depth of corn.

The corn, along with the underlying hyperkeratotic tissue, was excised *en bloc* [Figure 2a-c]. The incision was then approximated by simple interrupted suture with ethilon 4-0 [Figure 3a]. A pressure-relieving dressing was applied; the patient was advised to avoid weight-bearing activities on the affected foot; and suture removal was done on the 10th day.

Patients were then assessed on day 15, day 30, and at day 60 for the recurrence [Figure 3b]. A total of 8 patients underwent elliptical excision for large plantar corns. Follow-up at 4 weeks showed complete wound healing in all cases with no recurrence. Residue pairing was performed in 2 out of 8 patients to remove excess callus, followed by the application of 12% salicylic acid cream for 2 weeks. Patients reported significant pain relief and improved mobility.

The advantage of this method is its ability to remove the corn in its entirety. By excising the corn with full-thickness removal, the risk of recurrence is significantly reduced. Also, by elliptical excision, the surrounding callosity has been removed, ensuring good apposition of the tissue for a better outcome.

This treatment modality requires surgical skills and cannot be suitable for smaller-sized corns. Patient is advised to avoid weight-bearing activities and excessive pressure for a period of time till sutures are removed.

In conclusion, elliptical excision is a valuable surgical option for the treatment of larger plantar corns, offering superior outcomes compared to punch excision. When combined with appropriate pre-operative evaluation and post-operative care, elliptical excision offers high success rates in terms of symptom relief and cosmetic results, making it an excellent choice for surgical intervention in these cases.

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Figure 3: (a) Post-procedure closure. (b) Post-procedure after 10 days after suture removal.

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