

Peer Review File

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Reviewer A

General comments:

Interesting case-story with clear illustration of a problem, and how this was resolved. The paper is unfortunately somewhat unstructured, and the language needs a minor review for both grammar and correctness of certain sentences. There seems to be readily available relevant cases in literature that could be included for discussions and conclusions.

Reply: revision of language and grammar were made.

Changes in the text: all text

Abstract:

Very short abstract. I would recommend using available text-limit to expand with more information, both from the discussion, and with details from the specific therapy applied to resolve the case.

Reply: abstract was expanded and more information was added

Changes in the text: Retention hyperkeratosis (RHK) is benign and commonly seen skin condition in dermatology. RHK occurs when there is abnormality of routine desquamation that can be associated with poor hygiene. Hyperkeratosis refers to the increased thickness of the outermost layer of skin stratum corneum. Herein, we describe a 63-year-old male with severe RHK over a midline sternotomy scar. Although RHK is commonly recognized and seen by dermatologists, it's rarely reported. To our knowledge, there are no previous reports of RHK over surgical scar

Keywords

These could be expanded to increase search results if the specific journal allows for it. Suggestions could be Wound Care, Post Operation, Hygiene, Keratosis, Scar etc.

Reply: new keywords were added

Changes in the text: Keywords: Retention Hyperkeratosis (RHK), Scar, Wound Care, Post Operation, Hygiene, Keratosis

Ethical Committee and disclosures

No comments. Some information is repeated at the end of the paper. I recommend following the Journal guidelines very closely for the easiest publication phase.

Reply: revision of language and grammar were made.

Changes in the text: The authors report no financial and personal interests. 'This study protocol was reviewed and approved by [IRB Committee at research center of prince sultan military medical city]) and written informed consent was obtained from the parent of patient for publication of the details of their medical case and any accompanying images

Introduction

Very short introduction that focuses fully on RHK in just two sentences. The discussion however includes a longer section about other potential diagnoses considered during the process. It would be natural to restructure the introduction and include more of these as an overall introduction to the challenges and options seen at patient presentation.

Reply: more information added

Changes in the text: Retention Hyperkeratosis (RHK) is a common dermatosis that could be categorized under the big umbrella of Hyperkeratosis. It could be simply defined as keratin build-up over the most superficial layer of the skin with no clarified etiology till now but it has been correlated with certain dysfunction in keratinocytes cell cycle that is effected by multiple factors in which we will discussing in this case report of patient who had developed RHK over surgical scar [1-5]. Typically, RHK is a mild, benign skin disorder. Our patient developed RHK because of lack of mechanical friction secondary to hir fear of touching his surgical area. This hypothesis is supported by the lack of hyperkeratosis on other parts of his body. Our primary differential diagnosis upon examining the patient included Seborrheic keratosis (SK) and viral wart which were ruled out after obtaining full medical history from the patient.

Discussion

Please see comments on moving/restructuring some of the initial part to introduction.

Remarks and conclusions are made regarding hygiene and wound care, and reference is made to an earlier publication regarding Susac Syndrome [6]. By looking at this reference, a discussion was raised about the potential relevance of diagnosing that particular case as dermatitis neglecta (see: Dermatol Online J, 2010 Dec 5;16(12):15). Similarly, searching this differential diagnosis, Indian J Dermatol. 2015 Mar-Apr;60(2):185-7” describes cases that look very similar to the one reported here. Including this in the introduction and discussion therefore seems relevant.

Comment 1: done

Reply: e

Changes in the text: Hyperkeratosis (HK) could be divided according to its etiology as in hereditary types of hyperkeratosis such as Epidermolytic hyperkeratosis or site specific Hyperkeratosis like Focal acral hyperkeratosis and other non-classified types as well like Corn and Calluses [1]. Hyperkeratosis also can be seen in common dermatosis such as lichen planus and chronic eczema [1].

Throughout the clinical examination of the patient and based on the observation of the morphology of the hyperkeratic lesion of the patient, Seborrheic Keratosis (SK) and common warts were suggested as differential diagnosis along with RHK. SK is a common noncancerous skin condition in elderly that could present in form of tan or brownish papule or plaque which is similar to our patient's presentation [2]. Common warts or viral warts are described as small verrucous or papillomatous lesions [3], even though it might be less likely in this case due to the size and the shape of the lesion; yet it was not rule out completely at first which were ruled out after taking full history. All previously suggested conditions were considered to be different causes of hyperkeratosis [1].

RHK is a common benign skin condition seen by dermatologists frequently, yet a limited number of cases have been reported up to this day. On cellular level for normal skin growth, keratinocytes differentiate from the deepest layer of epidermis (stratum basale) to the most superficial one (stratum corneum) which considered to be the protective layer of the skin [4]. Stratum corneum is mostly composed of terminally differentiated keratinocytes, also known as corneocytes[5]. In healthy functional skin, corneocytes are shed in regular matter through biologic and mechanical factors as part of skin cell turnover[5]. As our patient has not been known to have any previous hyperkeratotic lesion throughout his life nor has the same lesion anywhere else other than over his surgical scar, we thought the development of retention hyperkeratosis was caused by dysfunctional skin cell turnover would most likely be due to lack of mechanical friction as he feared touching his surgical scar over the previous eight years. A case reported in 2010 by Harries et al. of a patient presenting with RHK over her face to have had similarly developed it due to poor hygiene out of fear of touching her face after being diagnosed with a rare autoimmune endotheliopathy known as Susac syndrome[6].

Hyperkeratosis management differs depending on type, severity, and chronicity. Topical Keratolytics containing Urea, tretinoin or other ingredients along with emollients is a gold standard method used in most cases of Hyperkeratosis. Topical therapy can be accompanied by lifestyle modifications regarding diet or daily habits. Also, Manual removal of the hyperkeratotic lesion through trimming and clipping the excess layer of skin is also common method used in management of HK as we have done with our patient which have cleared it completely in one session[1].

Conclusions

Short conclusion describing the main finding for prevention in the future. As above, it could potentially be expanded with a short description of the therapeutic result, risks for patients or more specific advise for how the prevision could be implemented (e.g. information folders, tele-follow-up etc.).

References

See comments above

Figures and Tables

See comments above.

Reviewer B

Abstract: The bulk of the abstract was spent on explaining what is RHK. Emphasis on the unique features of this case report should be highlighted. Please ensure typographic errors are corrected before manuscript submission ("sever"). Please avoid superfluous qualifier such as "to the best of our knowledge".

Case Report:

- Please provide more specific details as to why the patient did not clean his CABG wound for 8 years.

Reply: Added

Changes in the text: The patient's history was significant of avoiding touching or cleaning the area as he feared disturbing the healing process of his surgical wound.

- Since this case was due to neglect of care, please comment on the general hygiene status of the patient.

Reply: Done

Changes in the text: Thus, due to lack of surgical scar care, a thick layer of skin was formed and described as brown hyperkeratotic plaque. Otherwise his general hygiene was good

- What was the clinical impression on examination? Were there other differential diagnoses considered that necessitated a skin biopsy? Please move the differential diagnoses from discussion to the case description. However, I do not see the need for perform skin biopsy for RHK, Seborrheic keratosis nor common warts.

Reply: For further investigation, a 4 mm punch biopsy was taken to confirm diagnosis of RHK and rule out other differential diagnoses

Also Because of pt fear of other possible diagnosis

- The opening statement of discussion is a repeated line from introduction.

removed

- The line "Which has been excluded based on patient history and skin biopsy" is out of place and I am not sure what it means.

Reply: removed

- The entire discussion section should be strengthened to highlight the unique feature of this case
- were there other reasons why patient did not clean his wound for 8 years? The discussion section merely reiterated the definitions of RHK, seborrheic keratosis and viral warts.

Reply: Done more informations were added

General comment:

- RHK is not a rare condition and perhaps that is why it is underreported. The authors will need to find an angle to bring out why this case is worth publication.

- In addition to the corrections above, the manuscript also had a lot of typographic and grammatical errors. While this is not an explicit reason for rejection, I will not be able to recommend accepting the manuscript at this juncture.

Reply: Done with full review