Peer Review File

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Reviewer A

Overall, the case is well-written and aligns with current guidelines, observations, and recommendations. However, there are a few misspellings that need to be corrected and I have attached.
RE: Thank you for your recognition of our work.

172 Therapeutic options are limited, and there is no specific treatment
RE: Thank you for your valuable comments. We have modified our text as advised (see Page 7, line 135).

211 APPM is ““unknown, some patients showed familial occurrence and it raises the
RE: Thank you for your valuable comments. We have modified our text as advised (see Page 9, line 167).

232 APPM is still a rare disease, and its pathogenesis is unclear.
RE: Thank you for your valuable comments. We have modified our text as advised (see Page 9, line 182).

236 child being affected. As APPM is a skin disorder that may easily be ignored by both
RE: Thank you for your valuable comments. We have modified our text as advised (see Page 9, line 185).

Reviewer B

The authors report a case of a mucinotic nodule on a child's finger, which is potentially interesting to pediatric general practitioners. However, there are many issues in which this manuscript needs through reviewing before it can be considered for publication:
1. As authors point out, APPM usually presents as multiple small sized papules, disseminated through dorsa of the hands. This case, which remains localized after 5 years, is probably the result of a pathophysiological process different from that of the originally descibed APPM. This, along with the other described instances of monolesional APPM, may more likely represent a case of cutaneous focal mucinosis (CFM) which happens to be located on acral surfaces. The history of previous surgery on the affected digit is very relevant and should be disclosed from the beginning, as previous trauma has been described as a known trigger of CFM.

RE: Thank you for your valuable comments. In this case, vascular malformations at the root of the finger and the APPM nodule at the middle phalanx existed simultaneously. The middle

nodule changed little before and after the operation at the root of the finger, so the operation did not affect the enlargement of the middle node APPM nodule.We will compare APPM and CFM from the perspectives of pathogenesis, pathological differences and historical development.

(1).The etiopathogenesis of CFM is unclear, but it is thought to represent a reactive lesion.The etiopathogenesis of APPM is unclear too, but is often primary and has no history of past illness.

(2).Table The Histopathological difference between APPM and CFM

	APPM	CFM
epidermis	normal	Thinned, or hyperplastic hyperkeratotic,occasional normal
mucin deposition	in the upper and mid reticular dermis	throughout the dermis and subcutis
	splaying of collagen fibers and scanty inflammatory infiltrate	diffuse ill-defined dermal mucinous lesion,granular appearance of stroma with increased number of mast cells and without folliculotropism

(3). Cutaneous mucinosis is a medical term used for a diverse group of skin disorders that involve a localized or widespread accumulation of mucin in the skin or within the hair follicle. Cutaneous focal mucinosis (CFM) was first described as separate entity by Johnson and Helwig in 1966 who also defined histologic criteria for diagnosis of the same. CFM is a localized form of cutaneous dermal mucinosis clinically presenting as an asymptomatic skin-colored papule or nodule that occurs anywhere on the body or in the oral cavity.

With the gradual increase of reports on skin nodules, doctors have gradually deepened and refined their understanding of nodules.

Acral persistent papular mucinosis (APPM) is diagnosed by its'clinical and pathological features based on Rongioletti's discovery in 1986. APPM, a subtype of localized lichen myxedematosus (LM), also known as papular mucinosis. Rongioletti et al. classified lichen myxedematosus into three subsets: generalized papular and sclerodermoid (scleromyxedema), localized forms, and atypical forms. The localized forms are subdivided into five subtypes: discrete papular LM, APPM, self-healing papular mucinosis (juvenile variant and adult variant), papular mucinosis of infancy, and nodular LM. In 2001, Rongioletti and Rebora proposed a classification for dermal mucinosis. It is differentiated into two main groups: generalized form (or scleromyxedema) and localized form (or lichen myxedematosus). The former is associated with systemic disorders which include paraproteinemia, endocrinopathies, autoimmune connective tissue diseases, and hematologic malignancies. The latter has no associations with systemic diseases. Cases that do not meet criteria for either forms are classified as atypical.The localized variants of lichen myxedematosus are further subdivided into four distinct subtypes, including (a) a discrete papular form, (b) acral persistent papular mucinosis, (c), cutaneous mucinosis of infancy, and (d) a pure nodular form.

Recently, Nofal et al. recommended another classification of LM into two major types according to the presence or absence of systemic manifestations: systemic type (scleromyxedema) and pure cutaneous type. The pure cutaneous type is subclassified into: (i) localized or limited skin involvement such as discrete, APPM, self-healing, and nodular forms or any emerging localized presentation; and (ii) generalized or extensive skin involvement

without systemic manifestations.

The above is the development history of skin mucin disease, and it is still being further improved with the deepening of cognition. It can be seen that both diseases are mucin diseases, CFM is an early name with a wide range and rough teaching, and APPM is a type after cognitive refinement. The histopathological features of the two are different, as shown in Table. The pathological characteristics of the child in this case are consistent with APPM, while the clinical characteristics are not. Combined with the first isolated APPM reported in South Korea, with the deepening of cognition, this disease with different characteristics may be further classified.

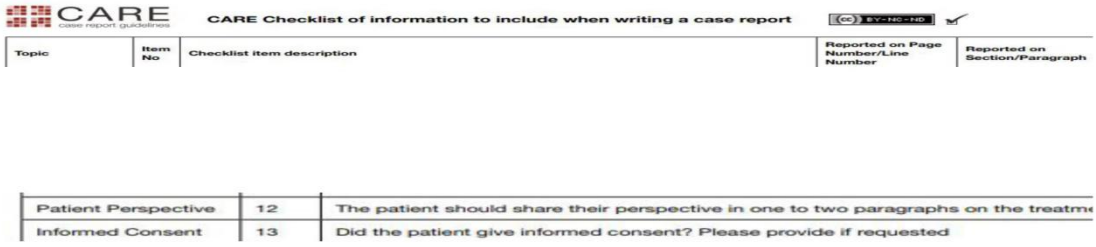
2. When listing laboratory examinations performed on the patient, thyroid profile is not mentioned. As the authors know, many mucinoses are related to thyroid abnormalities (i.e. pretibial or generalized myxoedema).

RE: Thank you for your valuable comment.We have supplemented the thyroid studies in the article. (see Page 5, line 75).The family members said that the child and family members had never had thyroid discomfort since life and had no systemic symptoms.

3. I feel the whole paper needs through rewriting.

- First of all, I advise the authors to strictly abide by the structure the journal specifies for case reports (Introduction, Case Presentation, Discussion, and Conclusions). Arranging the case in additional sections which can be summarized in one sentence is redundant and unnatural. This is the case with the section patient's perspective (wholly dispensable) and treatment (the entire section can be abbreviated to: "The nodule was successfully surgically excised without further recurrences nor complications").

RE: Thank you for your valuable comment. This part(patient's perspective) is required to be supplemented by the magazine. If you think this part is not necessary, we'd better communicate with the magazine editor first. Thanks again for your suggestion.



CARE Checklist of information to include when writing a case report

Topic	Item No	Checklist item description	Reported on Page Number/Line Number	Reported on Section/Paragraph
Patient Perspective	12	The patient should share their perspective in one to two paragraphs on the treatm		
Informed Consent	13	Did the patient give informed consent? Please provide if requested		

- Also, the discussion should follow a logical order. For example:

For 40 years, doctors around the world have reported on the disease in individual cases (again irrelevant, can be summed up to: 42 cases have been reported in literature up to date), some of which did not strictly fit its clinical characteristics (the results of the review should be expressed numerically, how many are some of them? which clinical characteristics are we talking about?). The etiopathogenesis is unclear (reflexions about pathogenesis come later), 11 of 42 cases have complications (complicatios or associated comorbidities? which?), the others have no comorbidities associated with it. Since it is a rare disease, we report this case to contribute to future research on the diagnosis and pathogenesis of APPM (this last sentence is more suitable

for the conclusions section)

RE: Thank you for your valuable comment.we apologize for the inconvenience caused to you. we have modified our text as advised (see discussion Page 6, line 100-104,)

- Regarding the conclusions, I find them quite unrealistic and sensational. For sure, any lesion affecting functionality should be treated regardless of the patient's age. However, the majority of CFM are benign lesions that need no active treatment.

RE: Thank you for your valuable comment.As stated in the article,The lesion is growing in the affected finger, affecting the children's life and learning.Therefore, for this child, the disease still needs active treatment.The pathogenesis of the disease is still unclear, and the diagnosis and treatment methods are not unified, and scholars are trying to treat it and explore the plan. Therefore, through the performance of this case, we remind everyone to pay attention to the disease, and any disease that affects health should be paid attention to, whether in cosmetic or functional aspects.

I hope these appreciations help improving this manuscript.

RE:I am very grateful to the judges for your careful guidance of my article, which makes my article more rigorous and helps me present ideas of scientific research and clinical significance to scholars and patients, so as to promote the diagnosis and treatment of diseases and contribute my value on the way to overcoming diseases.

Reviewer C

The manuscript suffers from significant deficiencies in the use of the English language. It needs a thorough revision in this regard.

RE: Thank you for your valuable comments. We have made the corresponding changes in the article according to the suggestions made by you and the editor. In addition, we asked a native English speaker to proofread this manuscript (Modification throughout the text).

The format of the bibliographic references is not uniform.

RE: Thank you for your valuable comments.We have revised the format of the references, and if it is still not standardized enough, we plan to delete some old references and delete some sentences of less value in the paper. Because in this revision, we found that some statements contributed less to the whole article.Waiting for your guidance.Thank you again for your guidance and advice.

Figure 1A has a background that causes the reader's attention to be lost. Figure 3A is of poor quality.

RE: Thank you for your valuable comments.We have removed the background from Figure 1 and re-captured a clearer image Figure 3A.

The case could be interesting, but requires numerous modifications.

RE: Thank you for your recognition of our work.