Reviewer's report

Title: Acute Compartment Syndrome of the forearm a rare complication to Allopurinol Induced Toxic Epidermal Necrolysis: A Case Report

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Reviewer: Maja Mockenhaupt

Which of the following best describes what type of case report this is?: Unreported or unusual side effects or adverse interactions involving medications

Has the case been reported coherently?: No

Is the case report ethical?: Yes

Comments to authors:

• language: is not the problem but the content and presentation

Review of manuscript

Acute compartment syndrome of the forearm a rare complication to Allopurinol-induced toxic epidermal necrolysis: A case report

The authors report a case with toxic epidermal necrolysis (TEN) and compartment syndrome.

My comments are the following:

1. In terms of clinical diagnosis, the authors are not at all precise. There is neither a good clinical description nor a good photograph to illustrate the pattern of the skin eruption.

   There is no reference to the consensus definition of severe skin reactions published by Bastuji-Garin et al in 1993, which is widely accepted. The consensus definition is based on the amount of skin detachment related to the body surface area. Involvement of 90% does not mean skin detachment and I would certainly not expect a patient with such a large amount of detachment to be discharged after less than 2 weeks.

   Furthermore, there
is no information on mucosal involvement. In addition, the term “non-immediate allergic reaction induced by drugs (NIRs)” is not appropriate for TEN and should be avoided here.

2. Since I am not an expert in compartment syndrome, I cannot judge whether the clinical description is sufficient or not, but I think that potential causes of compartment syndrome need to be given some thoughts. The attempts to pathophysiologically explain the relationship of TEN and compartment syndrome is somewhat vague. Although compartment syndrome has been described in burn patients, there is no need to discuss other types of adverse reactions such as AGEP or DRESS here, since those have little to nothing in common with burns. Furthermore, the immunologic statements reported are not up-to-date, especially in terms of TNF and FasL, since granulysin has been identified as the most important cytokine/cytotoxic protein in TEN.

3. The authors state several times that TEN can be caused by hundreds of different drugs and list certain of them. However, the list of drugs with a high risk doesn’t derive from the most recent case-control study in this field, but from different review articles which is misleading. Although repeated frequently, it is simply not true that TEN starts within hours of drug exposure, unless a patient had a previous TEN to the same drug, which is quite rare. In addition, it is absolutely unimportant for this case report, which drug might have caused the reaction, and allopurinol-induced cases are NOT “particularly lethal”. The inducing drug(s) do(es) not have an influence on the severity and outcome of the disease once it has started.

4. In terms of format, several parts of the manuscript appear repeatedly, e.g. parts of the
introduction and parts of the case presentation. There is no need for 2 histopathologic pictures.

5. The denomination “Caucasian” in general is inappropriate and misleading. Therefore, the authors should clearly say, whether the patient was of European decent or where the patient comes from (e.g. Turkey).

6. The manuscript should be considered for publication as a short letter taking into account the comments above.

**Declaration of competing interests:**

I have no competing interests related to this manuscript.