Reviewer’s report

Title: Vascular calcification regression after sodium thiosulfate administration and cinacalcet therapy: a case report

Version: 2 Date: 21 September 2013

Reviewer: Andreas Pasch

Which of the following following best describes what type of case report this is?: Other

If other, please specify:

Novel combination of treatments for a rare disease.

Has the case been reported coherently?: Yes

Is the case report authentic?: Yes

Is the case report ethical?: Yes

Is there any missing information that you think must be added before publication?: No

Is this case worth reporting?: Yes

Is the case report persuasive?: No

Does the case report have explanatory value?: No

Does the case report have diagnostic value?: No

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: Yes

Comments to authors:

This case report by Yeh and colleagues describes the case of a 71 year old female on haemodialysis who developed ulcerations at the right calf above the Achilles tendon.

Calciphylaxis was suspected clinically, and treatment consisted of courses of paricalcitol, sodium thiosulfate and Cinacalcet of variable duration. Furthermore, a 70% stenosis of the right posteriex tibial artery was treated with PTA and the wounds were treated with surgical debridement.
The outcome in this patient was favourable, as the wounds completely healed. Furthermore, the regression of the calcifications of large and small arteries at the right calf and other sites could be documented radiologically.

Comment

While I think the nicely documented regression of vascular calcification over time would merit publication of this case, I think, the case reports needs some thorough work-over.

Diagnosis: unfortunately, we do not have the histology which shows typical calciphylaxis lesions. I can however accept the diagnosis of calciphylaxis given the typical clinical presentation and the subcutaneous calcification of small vessels in the affected areas.

Novelty of treatment: both medications used here, sodium thiosulfate and Cinacalcet have been used for the treatment of calciphylaxis in the past. Therefore, I do not consider this a novel treatment approach, especially given the timely interval between the use of these two substances. Furthermore, the PCA and the surgical treatment largely contributed to the local wound healing.

In a case as the one presented here, it is simply completely impossible to attribute healing of the wounds and the regression of the calcifications to the effects of one of the drugs used here. This could also have been the natural course of disease, which we see here.

Course of calcification: this is indeed astonishing, and are very nice finding. And I think the radiology images should be reported and shown. To my knowledge there are not many data published, that convincingly show that the regression of calcification after a flare of calciphylaxis.

I advocate to also show the baseline angiography as the calcifications may have represented a combination of media calcification, along with atherosclerosis/intima calcification.

If the claim is made, that Cinacalcet caused a redistribution of calcium from the vasculature to bone, data providing evidence of an increase in bone mineral density should be provided.

Conclusion:

As it stands, I think this is a nice case of local calciphylaxis with a favourable outcome. It is difficult if not impossible to dissect which aspect of this multi-modal treatment was responsible for the regression of vascular calcification and for wound healing.

I would advocate to restructure the case report under the headline of “Regression of vascular calcification following an acute episode of calciphylaxis” or so, and resubmit the case report.

Technical details:
- please include page numbers
- please unify the figure labeling in text and figure legends: Figures 1, 2 and 3 should be combined to a single figure (1 A, B, C) etc.

**Quality of written English:** Acceptable

**Declaration of competing interests:**

Unrestricted research grant from Köhler Chemie, Germany, a provider of Sodium Thiosulfate.