

CLINICAL CASE

Pseudoacrocyanosis: a case for
telemedicine in rheumatologyBernhard Manger ,¹ Karin Manger²

To cite: Manger B, Manger K. Pseudoacrocyanosis: a case for telemedicine in rheumatology. *RMD Open* 2022;**8**:e002573. doi:10.1136/rmdopen-2022-002573

Received 12 July 2022

Accepted 17 August 2022

ABSTRACT

Here we describe three patients, two of them medical doctors, who were concerned about striking, sudden-onset bluish discoloration of their hands. After sending electronic images of these changes to befriended rheumatologists, one simple anamnestic question could unveil the surprising cause of their symptoms.

Individuals with a medical background sometimes tend to aggravate or overinterpret symptoms, they detect on themselves, family members or friends. Especially the new onset of a clinical sign possibly associated with a serious condition can have a deeply worrisome effect, which may lead to overlooking simple and harmless causes. This fact is confirmed by the personal observation of one of the authors (BM). Some time ago, he suddenly developed a symmetrical bluish discoloration of the palms and fingers of both hands, while in an aeroplane flying at an altitude of 10 000 m. No shortness of breath, chest pain or any other discomfort was present. After a few unsettling minutes, the reason for the appearance of these new skin changes became obvious.

This observation by itself would not be worth reporting and had not two very similar cases been brought to our attention within the last 2 years. The first was a 57-year-old woman, who all of a sudden became worried because of a blue discoloration of both of her hands, mainly involving thenar, thumbs and distal phalanges, while comfortably having dinner in a restaurant. She took a photograph with her cell phone and sent it to a friend of hers, a general practitioner, by Whatsapp messenger (figure 1A). Her family doctor in turn forwarded that image to a rheumatologist (BM). The second case was a 67-year old physician, who was deeply concerned over the dark blue colour change of his fingertips and nails, which he had observed for a couple of

Key messages

⇒ Occam's razor also applies for doctors who themselves develop irritating symptoms – search for easy explanations first.

days (figure 1B). In addition, he reported a feeling of 'coldness' in his fingers and lips, but no shortness of breath or reduced performance. He also sent photographs of his hands by e-mail to a befriended rheumatologist (KM.). In both cases, the patients' concerns could be dispelled by asking one surprisingly simple question.

Acrocyanosis can be a symptom of a wide variety of diseases, many of which are associated with a grave prognosis. Chronic hypoxemia due to cardiovascular or pulmonary conditions may be the most frequent cause, but autoimmune, infectious, haematological, neurological, paraneoplastic or genetic diseases are other alternatives in the differential diagnosis. In addition, exogenous factors, such as drugs, toxins or eating disorders have to be considered.¹ The two patients described above had sent images of their 'acrocyanosis' to rheumatologists by means of electronic communication. In return, they both were asked one



© Author(s) (or their employer(s)) 2022. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

¹Medizinische Klinik 3, Universitätsklinikum Erlangen, Erlangen, Germany

²Medical Practice for Rheumatology, Bamberg, Germany

Correspondence to

Dr Bernhard Manger;
Bernhard.Manger@uk-erlangen.de



Figure 1 (A) Discolouration of thenars and fingers of patient 1. (B) Discolouration of fingernails and knuckles of patient 2.

simple question, which immediately abrogated their concerns. Both described their relief and expressed a deeply felt gratitude for this easy solution. The question read, 'Have you been wearing a new pair of denim jeans?' Their skin changes had been caused by rubbing palms or fingernails over the fabrics of new jeans, just producing the amount bluish discolouration that can be mistaken for acrocyanosis. The effect was not restricted to a certain type or brand of jeans because all had come from different manufacturers. In one case, the effect was still reproducible after several rounds of machine washing. A generalised bluish hyperpigmentation of the skin induced by drugs is referred to as pseudocyanosis.² Therefore, the term pseudoacrocyanosis seems appropriate for the condition described here. So far, only one similar case has been reported in the literature almost 50 years ago.³

These cases not only demonstrate how professional priming can distort the interpretation of a harmless skin staining into a life-threatening condition. They also give an example how easy it can be sometimes for rheumatologists to impress colleagues with the help of telemedicine by simple pattern recognition of a previously encountered symptom'.

Contributors Both authors have contributed equally to this manuscript.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Consent obtained directly from patient(s)

Ethics approval Approval of Ethics committee is not necessary for this type of observational case report. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iD

Bernhard Manger <http://orcid.org/0000-0003-2375-0069>

REFERENCES

- 1 Kurklinsky AK, Miller VM, Rooke TW. Acrocyanosis: the flying Dutchman. *Vasc Med* 2011;16:288–301.
- 2 Weatherald J, Marrie TJ. Pseudocyanosis: drug-induced skin hyperpigmentation can mimic cyanosis. *Am J Med* 2008;121:385–6.
- 3 Darnell JC. Letter: blue hands and pseudocyanosis. *Ann Intern Med* 1976;84:617.