Received: 20 July 2022 | Revised: 23 April 2023 | Accepted: 23 May 2023

DOI: 10.1002/ccr3.7485

Clinical Case Reports Open Access WILEY

CASE IMAGE

Rumpel-Leede phenomenon as a rare complication after transulnar percutaneous coronary angiography and intervention

Letícia Sandoval | **Nayara Rodrigues Cafundó** | **Raphael Ferreira** | **Samela Segovia** | **Ximena Rosa**

University of Brasilia, School of Medicine, University Hospital of Brasília, Brasilia, Brazil

Correspondence
Letícia Sandoval, University of Brasilia, School of Medicine, University Hospital of Brasília, Brasilia, Brazil.
Email: leassadms@gmail.com

Abstract

The Rumpel-Leede sign, characterized by a non-blanching petechial rash distal to venous occlusion, has historically been associated with thrombocytopenia and capillary fragility. This phenomenon has been observed in various situations involving pressure application, such as tourniquet tests and continuous non-invasive pressure monitoring. Here, we present a case of Rumpel-Leede sign occurring after transulnar percutaneous coronary angiography in a 55-year-old female patient with a history of myocardial infarction. The patient had an uneventful recovery, highlighting the benign nature of the rash and the lack of intervention required. This underscores the importance of recognizing this sign and its association with specific procedures.

KEYWORDS

acute medicine, cardiovascular disorders, dermatology, emergency medicine

1 | CASE REPORT

The Rumpel-Leede sign was initially described as a non-blanching petechial rash distal to venous occlusion by a tourniquet. Historically, the tourniquet test was used as a surrogate for detecting thrombocytopenia and capillary fragility.[1] The Rumpel-Leede phenomenon has been reported following continuous noninvasive pressure monitoring with sphygmomanometer cuffs, compression bands, and arterial access.[2,3] Herein, we report a case of Rumpel-Leede after transulnar percutaneous coronary angiography.

A 55-year-old female patient presented to the emergency department with a 2-day history of worsening epigastric pain and dyspnea. Medical history was positive for myocardial infarction, stroke, metabolic syndrome, and smoking. At admission, ECG revealed a Q wave on inferior leads and troponin level of 10.7 ng/mL (reference range <0.1 ng/dL), meeting the criteria for myocardial infarction.

Following the patient underwent PCI. Transradial access was not possible due to spasms. The interventionist team decided on a transulnar approach. A sub-occlusive lesion on the right coronary artery was diagnosed, a drug-eluting stent was placed, and clopidogrel and aspirin therapy was initiated. Hemostasis of the puncture site was maintained with a compressive bandage. The patient developed a rash restricted to her right hand distal to the

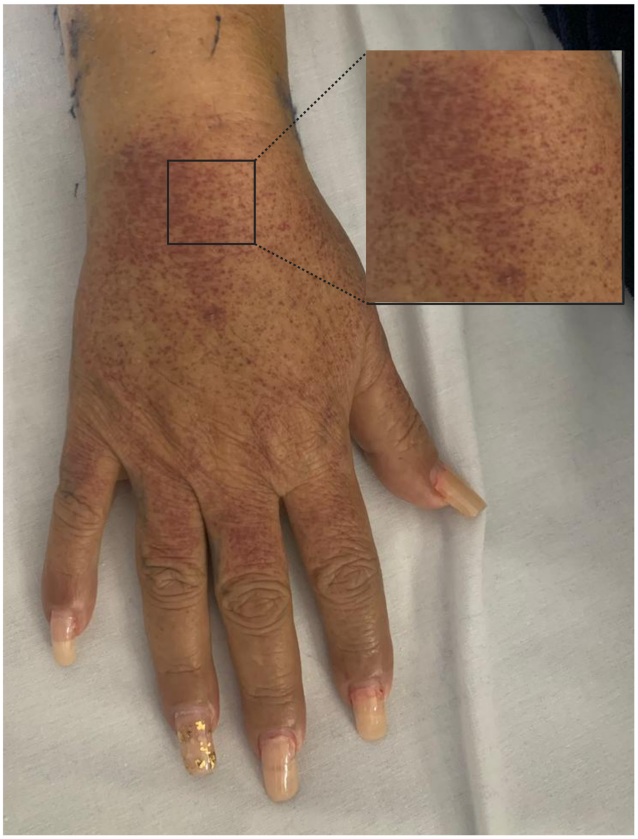

FIGURE 1 Petechial, non-blanching, non-raised, non-tender rash well-demarcated distal to the occlusive band on the dorsal surface of the hand.

occlusive band. It was a petechial, non-blanching, non-raised, non-tender rash with clear margins (Figure 1). Radial and ulnar pulses were palpable and symmetric; there were no sensory or motor deficits. Laboratory results showed thrombocytosis of 620.000 (per mm^3) and partial active thromboplastin time was more than 250 s (the reference range is 37 s). A clinical diagnosis of Rumpel-Leede was made based on the characteristics of the lesion, and no further workup or treatment was needed. She did not have any other hemorrhagic event and was safely discharged home after 24-h observation, with partial resolution of the rash.

AUTHOR CONTRIBUTIONS

Letícia Sandoval: Data curation; writing – original draft; writing – review and editing. **Nayara Rodrigues Cafundó:** Data curation. **Raphael Ferreira:** Conceptualization. **Samela Segovia:** Supervision. **Ximena Rosa:** Conceptualization; writing – review and editing.

ACKNOWLEDGMENTS

None.

Practical teaching point

We report a case of Rumpel-Leede after PCI. This fact warns physicians to avoid the adverse effect of pressure cuffs during PCI. Also, we emphasize the benign nature of this diagnosis, sparing unnecessary investigations.

FUNDING INFORMATION

None.

CONFLICT OF INTEREST STATEMENT

All authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author, LAMS. The data are not publicly available due to containing information that could compromise the privacy of research participants.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

ORCID

Letícia Sandoval https://orcid.org/0000-0002-6916-2249

REFERENCES

1. Wang K, Lee J. Images in clinical medicine. Rumpel-Leede Sign. *N Engl J Med*. 2014;370(1):e1. doi:10.1056/NEJMicm1305270
2. Khoury Abdulla R, Safian RD. Rumpel-Leede phenomenon after radial artery catheterization. *Circ Cardiovasc Interv*. 2018;11(4):e006507. doi:10.1161/CIRCINTERVENTIONS.118.006507
3. Mohammad KO, Hyman C, Gandhi S. Rumpel Leede Sign. *Mayo Clin Proc*. 2022;97(7):1230-1231. doi:10.1016/j.mayocp.2022.03.009

How to cite this article: Sandoval L, Cafundó NR, Ferreira R, Segovia S, Rosa X. Rumpel-Leede phenomenon as a rare complication after transulnar percutaneous coronary angiography and intervention. *Clin Case Rep*. 2023;11:e7485. doi:10.1002/ccr3.7485