22. Macdonald-Wallis C, Silverwood RJ, Fraser A, Nelson SM, Tilling K, Lawlor DA, de Stavola BL. Gestational-age-specific reference range for blood pressure in pregnancy: findings from a prospective cohort. *J Hypertens* 2015;**33**:96–105.
23. Norouzy A, Hasanzade Daloee M, Khoshnasab AH, Khoshnasab A, Farrokhi J, Nematy M, Safarian M, Nezafati P, Alinezhad-Namaghi M. Trend of blood pressure in hypertensive and normotensive volunteers during Ramadan fasting. *Blood Press Monit* 2017;**22**:253–257.
24. Perk G, Ghanem J, Aamar S, Ben-Ishay D, Bursztyn M. The effect of the fast of Ramadan on ambulatory blood pressure in treated hypertensives. *J Hum Hypertens* 2001;**15**:723–725.
25. Parati G, Stergiou G, O'Brien E, Asmar R, Beilin L, Bilo G, Clement D, de la Sierra A, de Leeuw P, Dolan E, Fagard R, Graves J, Head GA, Imai Y, Kario K, Lurbe E, Mallion J-M, Mancia G, Mengden T, Myers M, Ogedegbe G, Ohkubo T, Omboni S, Palatini P, Redon J, Ruilope LM, Shennan A, Staessen JA, vanMontfrans G, Verdecchia P, Waeber B, Wang J, Zanchetti A, Zhang Y. European Society of Hypertension practice guidelines for ambulatory blood pressure monitoring. *J Hypertens* 2014;**32**:1359–1366.
26. Zhao H, Jivraj S, Moody A. 'My blood pressure is low today, do you have the heating on?' The association between indoor temperature and blood pressure. *J Hypertens* 2019;**37**:504.
27. Poulter NR, Borghi C, Castillo RR, Charchar FJ, Ramirez AJ, Schlaich MP, Schutte AE, Stergiou G, Unger T, Wainford RD, Beaney T. May Measurement Month 2017: Results of 39 national blood pressure screening programmes. *Eur Heart J Suppl* 2019;**21**:D1–D4.

CARDIOVASCULAR FLASHLIGHT

doi:10.1093/eurheartj/ehz161
Online publish-ahead-of-print 20 March 2019

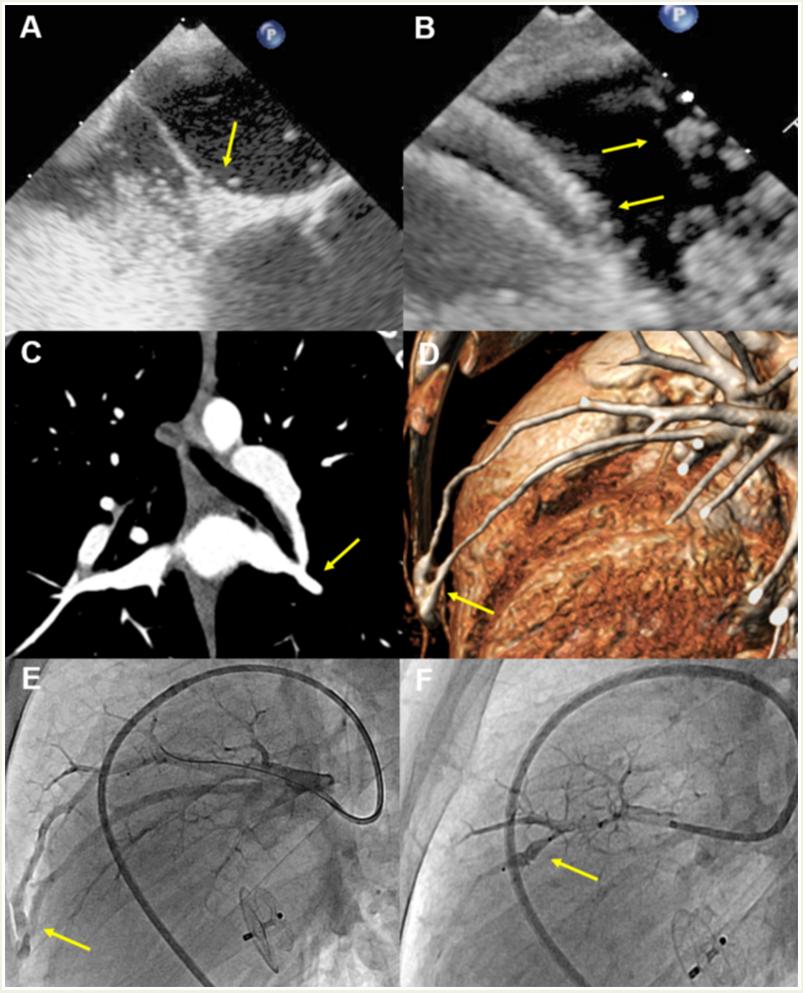
Right-to-left shunt in cryptogenic cerebrovascular event: fleas and lice

Roberto Galea, Kerstin Wustmann, Bernhard Meier, and Lorenz Räber*

Department of Cardiology, Bern University Hospital, University of Bern, CH-3010 Bern, Switzerland

* Corresponding author. Tel: +41 31 63 2 09 29, Email: lorenz.raeber@insel.ch

A 26-year-old woman with a history of transient ischaemic attack was referred for percutaneous closure of a patent foramen ovale (PFO) diagnosed with transoesophageal echocardiography (TOE). A TOE with bubble test and Valsalva manoeuvre showed a PFO Grade II (arrow) with an atrial septal aneurysm (*Panel A*). The PFO was successfully closed with an 25 mm Amplatzer PFO Occluder. The patient was discharged on acetylsalicylic acid 100 mg/day and clopidogrel 75 mg/day for 3 months followed by 3 months of acetylsalicylic acid alone. At 6 months, a TOE showed the Amplatzer PFO Occluder 25 mm in correct position (lower arrow). There was persistent right-left shunt (RLS) from the region of the left pulmonary veins (upper arrow) and not involving the PFO (*Panel B*). A multislice computed tomography (MSCT) was performed showing a pulmonary arteriovenous fistula (PAVF) between the inferior lingular artery and correlating pulmonary vein (arrows) (*Panels C* and *D*). Cardiac catheterization confirmed the MSCT findings demonstrating a PAVF in the segment 5a left (arrow, *Panel E*). The PAVF was successfully closed with a 5-mm Amplatzer Vascular Plug II (arrow, *Panel F*). The patient was discharged without any antiplatelet therapy.



Three months later a TOE excluded RLS persistence. The patient has remained symptom-free since. This case emphasizes that different RLS can coexist (fleas and lice) and contribute to the development of cerebrovascular events. The existence of PAVF should be always considered even in the presence of a PFO. Both can be corrected with a simple and innocuous catheter-based intervention.