autoregulation, NVC, the influence of circulating molecules on BF of the ONH, and the lack of autonomic innervation of retinal vessels. In addition to structural vascular abnormalities, the dysregulation of arteries and veins is also important. Intra- and inter-retinal haemorrhages are often a consequence of disturbed BRB. Venous dysregulation increases RVP and can lead to RVO. While hypoxia plays a major pathophysiological role in diabetic retinopathy and in wet AMD, an unstable oxygen supply contributes to GON by increasing the oxidative stress. While systemic hypertension increases the risk of infarctions or diabetic retinopathy, systemic hypotension and increased fluctuations in BP are risk factors for GON. Retinal vascular changes also predict, to some extent, cardiovascular events.

Conflict of interest: none declared.

References
The list of references is available in the online version of this paper.

CARDIOVASCULAR FLASHLIGHT

The invisible made visible: multi-modality imaging in the evaluation of cardiac sarcoidosis
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A 34-year-old male with a radiographic (Panel A) and histological diagnosis of pulmonary sarcoidosis presented with symptomatic complete atrioventricular block (Panel B). Right ventricular endomyocardial biopsy was negative for granulomas. Delayed gadolinium enhancement cardiac magnetic resonance imaging showed focal areas of scar in the basal and apical inferior walls (Panels C–E, arrows). Dual-isotope single-photon emission computed tomography using 99mTc tetrofosmin (top row) and 18F-fluorodeoxyglucose (bottom row) was performed (Panels F–H). Myocardial perfusion at rest was reduced in the inferior, inferolateral, basal septal, and anteroseptal walls (yellow arrows). 18F-fluorodeoxyglucose uptake was increased suggesting active cardiac sarcoidosis in the inferolateral wall (white arrows) and decreased suggesting fibrosis in the inferior and basal anteroseptal walls (black arrows). The patient underwent dual-chamber pacemaker insertion and commenced corticosteroids.

On retrospective analysis of transthoracic echocardiography (TTE) performed 1 year previously, speckle-tracking-derived left ventricular global longitudinal strain (GLS) was significantly impaired (−12.6%) despite preserved ejection fraction (Panel I). Furthermore, segmental strain was already markedly reduced (in blue) in the inferior and inferolateral segments. Follow-up TTE revealed improved GLS to normal range (>20%) with persistent reduced segmental strain in the basal inferior and basal anteroseptal walls. This case highlights that: (i) a multimodality imaging approach may reveal cardiac sarcoidosis despite negative histology and (ii) speckle-tracking strain analysis is a promising modality for earlier diagnosis of this patchy and frequently subclinical myocardial disease and may also represent a useful and safe tool for serial follow-up of treated patients (especially if a device is in situ).