Rheumatic heart disease: still a cause of pediatric stroke

Marta Rosário¹, Ana Reis e Melo¹, Tiago Magalhães¹, Edite Gonçalves², Mariana Rodrigues³, Teresa Nunes¹, Elsa Azevedo⁴, Dílio Alves⁵, Mafalda Sampaio⁶, Cláudia Melo⁶, Raquel Sousa⁶

1 Pediatrics Service, Hospital Pediátrico Integrado, Centro Hospitalar de S. João, Porto; 2 Pediatric Cardiology Service, Hospital Pediátrico Integrado, Centro Hospitalar de S. João, Porto; 3 Pediatric Rheumatology Unit, Centro Hospitalar de S. João, Porto; 4 Neurology Unit, Neurology Service, Centro Hospitalar de S. João, Porto; 5 Neurophysiology Unit, Neurology Service, Centro Hospitalar de S. João, Porto; 6 Neuropediatrics Unit, Paediatrics Service, Hospital Pediátrico Integrado, Centro Hospitalar de S. João, Porto

Background

Rheumatic heart disease (RHD) remains a major cause of cardiovascular disease. Progressive valvular disease develops in the years following one or more episodes of acute rheumatic fever (ARF), most of the cases being asymptomatic.

Case report

♂, 10 year-old

Emergency department

- Sudden headache
- Blurred vision
- Gait imbalance

Neurological exam

- Limited supraversion of the right eye
- Diplopia
- Head tilt to the right
- Gait ataxia

Personal background

- Untreated pharyngeal infection followed by migratory arthralgia, high CPR and ASO of 2968 U/ml (2 years before)
- A de novo murmur had led to a mitral valve (MV) regurgitation diagnosis (9 months earlier)

- Brain CT: normal
- Brain MRI: left thalamic and mesencephalic ischemic lesions

- Immunologic, hematologic, infectious and vascular investigation were unremarkable
- **Prothrombin G20210A homozygotic gene mutation** was detected

Diagnosis: thalamic and mesencephalic stroke
ARF with valvular involvement

Treatment:

- monthly benzathine benzylpenicillin
- stroke secondary prevention with warfarin
- Normal neurological examination at discharge

Discussion/Conclusion

Rheumatic heart disease (RHD) has declined in the developed countries and some possible complications are atrial fibrillation, pulmonary hypertension, heart failure and less commonly stroke. This patient probably had cardioembolic stroke due to RHD. A history of an untreated pharyngitis, arthritis and elevated ASO raised the high suspicion of a missed ARF. The prothrombin gene mutation likely increased the risk for a thrombus. This case reminds us to remain alert to complications of untreated streptococcal pharyngitis in an era of judicious antibiotic use campaign.