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Screening protocol of patent foramen ovale in cryptogenic stroke

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Introduction: Cryptogenic stroke reaches a prevalence of 30% and entails a significant risk of recurrence. Transesophageal echocardiography is the gold standard in identifying potential proximal embolic sources, including patent foramen ovale (PFO). Based on recent evidence, PFO percutaneous closure is recommended in selected cases of cryptogenic stroke, especially if associated with high risk features. Since PFO is present in up to 27% of the general population, the real challenge is to define which patients have a pathogenic PFO.

Purpose: To develop a pathogenic PFO screening protocol in patients with cryptogenic stroke, aimed at secondary prevention.

Methods: We revised the literature, analysing published articles in PubMed in the last 5 years, with the keywords "patent foramen ovale and cryptogenic stroke". Subsequently, we produced a screening algorithm based on cryptogenic stroke definition, on RoPE (Risk of Paradoxical Embolism) Score and on the inclusion and exclusion criteria of the CLOSE, REDUCE and RESPECT studies, which showed promising results of PFO closure in this context.

Results: Our protocol establishes that patients who present with ischemic stroke should be evaluated for risk factors and undergo a detailed etiological study. When the study is inconclusive, the RoPE score is applied to determine the probability of finding a pathogenic or an incidental PFO. If equal or greater than 7 points, in the absence of predefined exclusion criteria, a transesophageal echocardiogram is performed. If the screening is positive, the patient will be referred to the Cardiology Department for therapeutic guidance. If negative, alternative complementary diagnostic methods may be considered.

Conclusion: Through the application of this protocol, patients with high probability of having a pathogenic PFO and, consequently, those who may benefit from percutaneous closure, will be selected to undergo a screening transesophageal echocardiogram. The implementation of a PFO screening protocol in patients who present with cryptogenic stroke is relevant, by proposing to reduce its recurrence rate through the early referral of young patients with indication for an invasive strategy.