A couple of years ago, the author and colleagues published a subgroup analysis of Device Closure Versus Medical Therapy for Cryptogenic Stroke Patients With High-Risk Patent Foramen Ovale (DEFENSE-PFO) study, which included the patients with old (≥60 yrs) age. We found that the two-year risk of ischemic stroke or transient ischemic attack in old patients was substantially higher than in the young counterparts (24.6% vs. 5.8%). Accordingly, the benefit of patent foramen ovale (PFO) closure was more significant in old patients than in young ones. However, the result should be cautiously interpreted because the number of patients was small.

In this issue of the Journal of Stroke, Farjat-Pasos et al. published a review containing updated information on this issue. Due to the absence of evidence from randomized trials, the authors could not make any firm conclusions, but they summarized the relevant facts. As compared to young stroke patients with PFO, old patients with PFO more often (1) exhibit high-risk PFO anatomical features, (2) have concomitant vascular-related risk factors that may increase the risk of paradoxical embolism, and (3) present a higher incidence of future PFO-related ischemic events. It was also noted that old age was not associated with an increased risk of complications associated with PFO closure. Thus, all these findings support the PFO closure in old patients as long as the PFO has high-risk characteristics and other stroke etiologies, such as atrial fibrillation (AF), were excluded after thorough investigations. However, some studies showed that new-onset AFs were observed more frequently in older patients than younger ones. Therefore, the “close or not” decision in old patients should be made after an intense discussion based on these facts among the neurologist, cardiologist, and patient until ongoing randomized trials provide more definitive insights into the role of PFO closure in the old population.

Another paper by Baik et al. is also worth reading. They performed transthoracic echocardiography and transesophageal echocardiography in patients with both AF and PFO and measured various indices, including the left atrial appendage emptying velocity (LAAV). They found that left atrium/left atrial appendage (LA/LAA) thrombus or spontaneous echo-contrast (SEC) was less frequent in patients with PFO than in those without (37.2% vs. 50.3%, \( P=0.007 \)). PFO was independently associated with the lower prevalence of LA/LAA thrombus or SEC (adjusted odds ratio 0.64, 95% confidence interval 0.43–0.93, \( P=0.021 \)). They also found that LAAV was significantly higher in patients with PFO than in those without PFO (35.0 [21.8–53.0] cm/s vs. 27.6 [18.3–46.5] cm/s, \( P=0.005 \)). These results suggest that PFO may be associated with a lower prevalence of LA/LAA thrombus or SEC in stroke patients with AF and that higher LAAV may mediate this relationship in patients with PFO. Although the cause-effect relationship remains uncertain, this observation suggests the beneficial role of PFO in reducing LA/LAA thrombosis in patients with AF. These interesting findings raise another question. Nowadays, with intensive etiology work-ups, patients with both AF and PFO are increasingly recognized. Given the paper by Baik et al., we are currently unsure whether PFO is an enemy or friend in patients with AF. If such patients develop a stroke, should we close the PFO or not?

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