Abstract:
Population studies indicate that patent foramen ovale (PFO) with large right to left shunt is associated with migraine, particularly migraine with aura. Other causes of right to left shunt, including atrial septal defect and pulmonary arteriovenous malformations may also be associated with migraine. Animal studies indicate that microemboli, similar to those that might travel through a PFO, can trigger cortical spreading depression, which is believed to be the physiological substrate of the migraine aura. A number of studies have examined the therapeutic potential of closure of patent foramen ovale for migraine. These studies have been generally negative, although subgroup analysis indicates that specific subsets of patients, namely those with frequent aura or those with specific types of aura, may have significant benefit from the procedure. In this debate, I will argue that right to left shunt may represent a significant pathophysiological mechanism for a specific subgroup of patients, and that for these patients, PFO closure is a therapeutic option worth considering if other currently available therapies have failed. I will also argue that PFO could play a significant role in the relationship between migraine and stroke. I will review the results of the recent PRIMA and PREMIUM studies, both of which provide interesting evidence regarding this controversy.


At the conclusion of this presentation, attendees should be better able to:

- Be aware of the evidence linking patent foramen ovale to migraine.
- Know the data from clinical trials regarding patent foramen ovale closure and migraine
- Be able to evaluate whether or not there are any specific types of patients for whom closure of patent foramen ovale might be indicated.