Cardiac papillary fibroelastoma complicated by ischemic stroke: A comprehensive analysis of 67 cases

Mohamed Ayan, Haitam Buaisha, Mohsin Salih, Ahmed Abuzaid, Saurabh Aggarwal, Muhammad Azzouz, Aiman Smer, Venkata Alla, Clair Hunter and Aryan Mooss
Creighton University Medical Center, USA

Background: Primary cardiac tumors are extremely rare with an incidence of less than 0.1%. Cardiac Papillary Fibroelastomas (CPF) are the second most common primary cardiac tumors, after myxomas. The demographics, site, size, clinical characteristics, treatment, and prognosis of CPF are examined.

Methods: We searched Pubmed, Cochrane library and Embase database for cases, case series and related articles on the subject in English languages. They are retrospectively analyzed. Only cases with histologically proven diagnosis were included.

Results: Sixty seven cases of CPF complicated by ischemic stroke were identified (52.2% females, 47.8% male, mean age 50.88 ± 15.9 years). The valvular surface was the predominant site of the tumor. The most commonly involved valve was Mitral valve 49.3% followed by Aortic valve 22.4%. Anterior mitral valve leaflet on the atrial side was the most reported mitral valve site. The left ventricle was the predominant non-valvular site involved in 14.9 % followed by left atrium 2 %. Size of the tumor varied from 0.2 cm to 5 cm, mean size 1.27 ± 0.8 cm. Tumor numbers various from 1 to 4 with 86.6% of cases have only one tumor, 7.5% of cases have 2 tumors, 1.5% of case have 3 tumors, 3% of case have 4 tumors. Tumor mobility was reported in 53.7% of cases. Transthoracic echocardiogram was positive in 92.9% of cases, whereas Transesophageal echocardiogram was positive in 98% of cases. Right middle cerebral artery territory was the most common brain site involved in 50% of reported cases, followed by left middle cerebral artery involved in 43%. Three percent of patients who presented with acute ischemic stroke received thrombolytic with good response. Surgical removal of the tumor is curative with excellent long term result. The recurrence after surgical resection was not reported average follow up of 1 year after surgery.

Conclusions: CPF complicated by ischemic stroke affected mainly middle aged people with almost equal female to male ratio. Left sided heart valves were the predominant site of the tumor. TEE was better than TTE in terms of tumor detection. Surgical removal of the tumor is curative with excellent long term complication. Thrombolytic therapy for ischemic stroke secondary to fibroelastomas has very good outcome.

Biography
Mohd. Ayan has completed his medical school at Tripoli University. He did internal Medicine residency at Tripoli University Affiliated hospitals and Master of Public Health at Benedectine University, Lisle IL. He is currently a third year internal medicine resident at Creighton University Medical Center, and is very interested in Cardiology and research, he has also applied for cardiology fellowship this year. He is a member in Committee on Scientific Research (CoSR) Resident and Fellow section American Medical Association. He has more than 20 peer reviewed journal/abstract published. Furthermore, and serving as per reviewer for SGIM and ACP annual meeting.

Notes: