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RIGHT ATRIAL MYXOMA AND SUDDEN DEATH

Case Report

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ABSTRACT

Sudden Cardiac deaths due to Myxoma is rarely reported though Myxoma per se is not Uncommon and is widely reported in Literature. Cardiac Myxomas are benign Tumors of the Heart, most frequently located in the Left Atria and rarely located in the Right Atria. They have the Potential to cause Embolization, Obstruction or Arrhythmia. We report a case of 32years old individual who was brought dead to Hospital with a strong suspicion of Assault . Autopsy revealed The Pathological Condition of the Heart and Right Atrial Myxoma, causing Sudden Death of the Individual thus putting an end to the speculations surrounding the Death. Myxoma are known to be silent and undiagnosed and, hence, have a potential for causing Sudden Death. Given the Rare type of Case and Sudden Nature of Death this case has been reported.

Keywords: Sudden Death, Right Atrial Myxoma, Cardiac Tumours, Autopsy, Heart

INTRODUCTION:

Cardiac myxoma are benign, typically golfball-sized tumors that grow in the lumen of the atria, usually the left, attached by a stalk to the atrial septum. The prevalence of such a rare condition are necessarily approximate and range from 1-5/10,000 in autopsy series, or 2 per 1,00,000 in the general population, with a sex ratio of 2:1 in favour of women. The majority of patients are between 30-60yrs, but there are reports of tumors occurring in infants and in the elderly.¹ .90% of the Myxoma are in atria, with a left to right ratio of approximately 4:1 Cardiac Myxoma

(World.L.E.,andlie,J.T)^{2,3,4,5}.The present case reports Right Atrial Myxoma, which caused Sudden Death in a adult at workplace.

Case History:

An young Adult male aged 32yrs,Obese built, brought dead to the JIPMER[referral center]Hospital. He was working as a laborer in a biscuit factory. On this fateful day he had finished his lunch and had reported back to work. While he was in his usual job of lifting sacs of wheat flour, he developed uneasiness and breathlessness and fell down. He was immediately rushed to the hospital. His past history of illness was nothing significant. The sudden Nature of death raised suspicion about his death and his recent differences with the Employer involving Union activities further added up to the Speculation surrounding the Death.

Autopsy:

External Findings:

Dead body of an young adult male aged 32yrs,obese built,length169cms, 72kgs,light brown complexion. Rigormortis present all over the body. Postmortem staining present over the back. Face, neck and upper aspect of the shoulders were congested. Bluish discoloration of the fingertips, ala of nose and earlobes present. No demonstrable evidence of external injury present. Petechial hemorrhages over face ,upper aspect of the shoulders and conjunctiva present.

Internal Findings:

There was Generalized congestion of all the organs. Both lungs and pleura were congested and edematous with multiple petechial hemorrhages over the surface. Right lung weighed 660gms and left lung weighed 580gms.Cut section oozes blood stained Frothy fluid blood.

The Heart was Enlarged,weighing 680gms[pic-2].right atrium was significantly distended, on dissection it is found to contain a pedunculated globular mass[pic-1],measuring 16cms in circumference, cut section shows yellowish gelatinous substance, surface is smooth and glistening. Microscopical examination of the mass revealed loose cellular stroma with (stellate)myxomatous cells, lymphocytes with hemosiderin pigment at places of myxoma.Epicardial hemorrhages were present over the anterior surface of the right ventricle. The Left ventricle thickness measured 2.1cms and the right ventricle thickness measured 7mm. The right atrioventricular junction measured 13.8cms.The coronary ostia showed moderate degree of narrowing. Valves were unremarkable. Coronaries were patent.

The Brain was congested and weighed 1310gms with petechial hemorrhages in the white matter present and devoid of Membrane or ventricular hemorrhages. Autopsy ruled out Trauma and Toxicological Examination was Negative.

Death was opined as Cardiac failure consequent to right Atrial Myxoma of heart with Hypertrophic Cardiomyopathy. The Obesity and Work stress was considered as Contributing Factors. The Manner of Death was designated as Natural.

Discussion:



The most common primary tumor of the heart is the myxoma arising from the mural endocardium, it constitutes 30.5% benign tumor of the heart. Myxoma are found almost exclusively in the atria, with about 3/4th occurring in the left atrium in the region of the fossa ovalis(Andersons,kissane,1982)⁶. Right atrial myxoma accounts only few. however right atrial sarcoma are common. They occur at any age, but the majority are observed in persons between 30-60yrs of age. In the present case the individual was 32yrs old. The Tumor was a pedunculated globular mass with smooth surface resembling myxoma⁷. It arises from the smooth muscle cells derived from the subendocardium⁸. Multipotential mesenchymal cells capable of producing various cell types⁹ or endocardial lining cells(Mosaleset al.1975)¹⁰. The pedunculated mas got detached from its attachment to the atrial wall and moved towards the direction of blood flow and obstructed the right atrioventricular junction(ball valve mechanism).This added to the increase load over the left ventricle and congestion of the lungs and thereby leading to failure of heart¹ and death of patient(Word and Lie,1980, and Fene G. et al,1976)^{2,11}.Congestion of face and petechial hemorrhages further confirming the right ventricular obstruction to the flow of blood. Death was due to Cardiac Failure as a result of right atrioventricular obstruction consequent to right atrial myxoma. The Enlarged Heart with Hypertrophy of the Ventricular wall further aggravated the process Death. The Silent nature of this Tumor further added up to the Sudden Nature of Death, however Two Dimensional Echocardiography will differentiate the Tumors of Heart¹². The absence of Injuries, Externally and internally ruled out the Assault Theory as stated by the Family members.

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PICTURES:

1. The Picture shows detached Myxoma in the Right Atrium obstructing the Right Atrioventricular opening.



2. The Picture shows Hypertrophy of the Left Ventricular wall.

