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Awareness of Ebstein Anomaly of the Great Arteries among Allied Health Sciences Students

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Introduction: The Ebstein anomaly was named after Wilhelm Ebstein, who in 1866 described the heart of the 19-year-old Joseph Prescher. Ebstein anomaly is a rare heart defect that's present at birth. In this condition, your tricuspid valve is in the wrong position and the valve's flaps are malformed. As a result, the valve does not work properly. Blood might leak back through the valve, making your heart work less efficiently. Aim: To assess the knowledge levels and create awareness about the Ebstein Anomaly of the Great Arteries among Allied Health Science Students. Material And Method: A cross-section research was conducted with a self-administered questionnaire containing ten questions distributed amongst 109 Allied Health sciences students. The students were randomly selected across various disciplines of Allied Health Sciences. The questionnaire assessed the awareness about Ebstein anomaly of the great arteries among Allied Health Sciences students. The responses were recorded and analysed. There were no incomplete responses and no dropouts from the study. The final data obtained was organised, tabulated and subjected to statistical analysis. Results: Among 109 Allied Health Sciences Students 73% of the students know about the Ebstein anomaly of the great arteries.71% of the students know about cyanosis that occur in Ebstein anomaly of the great arteries.72% of the students know arrhythmia is most commonly seen with Ebstein anomaly of tricuspid valve.71% of the students know the cause of Ebstein anomaly. 71% of the students know about the treatment and prevention of Ebstein anomaly. Conclusion: There is adequate awareness amongst AHS students about the Ebstein anomaly of the great arteries.

However,enhanced awareness initiatives and educational programmes together with increased importance for curriculum improvements that further promote knowledge and awareness of the Ebstein anomaly of the great arteries should be initiated for further understanding and benefits.

Keywords: Awareness, Students, great arteries, congenital, Allied health sciences.

1. Introduction

Ebstein anomaly was named after Wilhelm Ebstein, who in 1866 described the heart of the 19-year-old Joseph Prescher.(1) Ebstein anomaly is a rare heart defect that's present at birth (congenital). In this condition, your tricuspid valve is in the wrong position and the valve's flaps (leaflets) are malformed. As a result, the valve does not work properly. Blood might leak back through the valve, making your heart work less efficiently.(2) In The Ebstein anomaly, the leaflets are placed deeper into the right ventricle instead of the normal position. The leaflets are often larger than normal. The defect most often causes the valve to work poorly, and blood may go the wrong way. Instead of flowing out to the lungs, the blood flows back into the right atrium.The backup of blood flow can lead to heart enlargement and fluid buildup in the body. There may also be narrowing of the valve that leads to the lungs.(3)

A hole in the wall separating the heart's two upper chambers and blood flow across this hole may cause oxygen-poor blood to go to the body. This can cause cyanosis, a blue tint to the skin caused by oxygen-poor blood.(4) Ebstein anomaly occurs as a baby develops in the womb. The exact cause is unknown. The use of certain drugs (such as lithium or benzodiazepines) during pregnancy may play a role. The condition is rare. (5)

Ebstein anomaly of the great arteries is an important medical condition that needs prompt attention and AHS students will be required in the management of this condition during the course of treatment with this disease. Hence this study was done with aim to assess the knowledge level and create awareness about Ebstein anomaly is the great arteries among Allied health sciences students.

2. Materials and Method:

This cross-sectional research was conducted with a self-administered questionnaire containing ten questions distributed amongst 109 Allied Health science students.The students were randomly selected across various disciplines of Allied Health Sciences.The study setting was designated in the university campus.The survey instrument was a questionnaire pre tested and evaluated for validity and reliability concerns.

The questionnaire included ten questions eliciting the demographic data through open ended responses and multiple choice questions for the other responses.The study was approved by the Institutional Ethical Committee and informed consent was obtained from the participants. The questionnaire was posted on an online platform and the identity of the respondents were kept confidential.

The questionnaire assessed the awareness about Ebstein anomaly of the great arteries, clinical manifestations of Ebstein anomaly of the great arteries,causes of Ebstein anomaly of the great

arteries,risk factors of Ebstein anomaly of the great arteries and prevention methods. The responses were recorded and analysed.There were no incomplete responses and no dropouts from the study.The final data obtained was organized,tabulated and subjected to statistical analysis.

The salient questions in the study are

1.Are you aware of the Ebstein anomaly?

2.Do you aware of cyanosis that occurs in the Ebstein anomaly?

3.Whether arrhythmia is most commonly seen with Ebstein anomaly of tricuspid valve?

4.Do you aware of the cause of the Ebstein anomaly?

5.Are you aware of treatment and prevention strategies of Ebstein anomaly?

3. Results:

Among 109 Allied Health Sciences Students, 73% of the students were aware about the Ebstein anomaly of the great arteries (Fig.1), 71% of the students aware of cyanosis that occur in Ebstein anomaly of the great arteries(Fig.2), 72% of the students know arrhythmia is most commonly seen with Ebstein anomaly of tricuspid valve (Fig.3), 71% of the students were aware of the cause of Ebstein anomaly(Fig.4), 71% of the students were aware about the treatment and prevention of Ebstein anomaly(Fig.5).

Fig.1.Are you aware of the Ebstein anomaly?

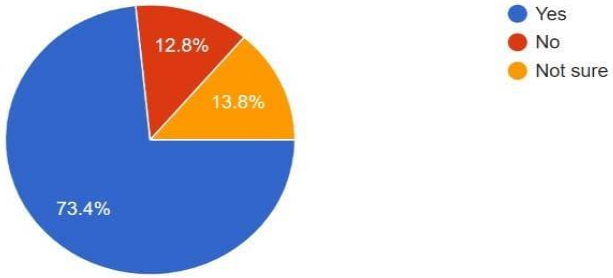


Fig.2.Do you aware of cyanosis that occurs in the Ebstein anomaly?

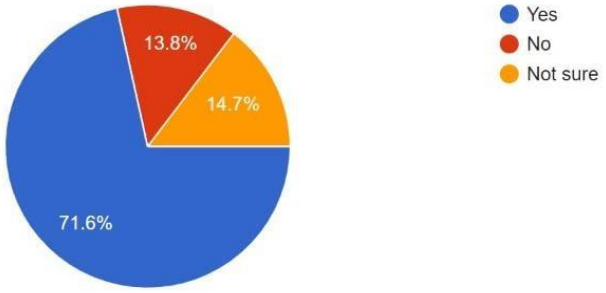


Fig.3.whether arrhythmia is most commonly seen with Ebstein anomaly of tricuspid valve?

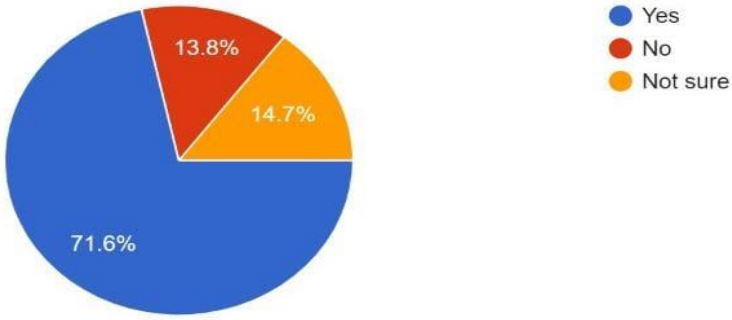


Fig.4. Do you aware of the cause of the Ebstein anomaly?

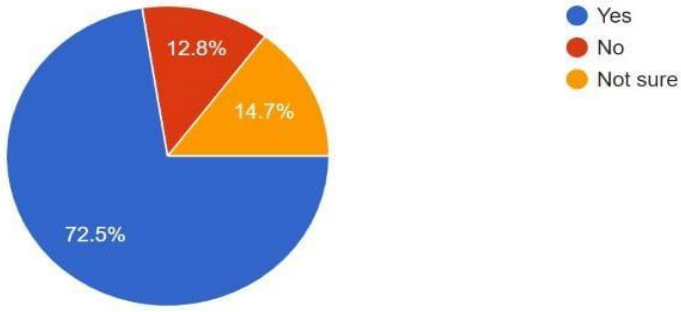
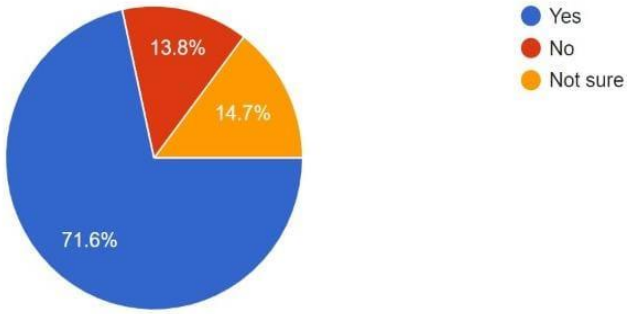


Fig.5.Are you aware of the treatment and prevention strategies of Ebstein anomaly?



4. Discussion:

Ebstein's anomaly is a congenital heart defect in which the septal and posterior leaflets of the tricuspid valve are displaced towards the apex of the right ventricle of the heart.(6)(7). In our study 73.4% of the students were aware about the ebstein's anomaly.

Ebstein's anomaly is a common lesion referred for fetal echocardiography because severe forms may lead to cardiomegaly, hydrops, and tachyarrhythmias. (8)Neonates with Ebstein's anomaly may present with cyanosis, congestive heart failure caused by regurgitation of the tricuspid valve, and marked cardiomegaly.(9)(10).In our study 71.6% of the students aware of the cyanosis that occurs in the Ebstein anomaly.

Patients with Ebstein'sanomaly are known to have a high potential for developing arrhythmia, in the vast majority, of the tachycardia type.(11)Most of these tachycardias are based on accessory pathways located along the anomalous atrioventricular valve, found in up to 30% of this patient cohort.(12)(13) .In our study 71.6% of the students aware of the arrhythmia is most commonly seen with Ebstein anomaly of tricuspid valve.

Ebstein's anomaly occurs due to improper development of the tricuspid valve in the first eight weeks of fetal growth.(14)It can be caused by a number of factors, though, most of the time, this heart defect occurs sporadically (by chance), with no apparent reason for its development(15).Some congenital heart defects may have a genetic link, either occurring due to a defect in a gene, a chromosome abnormality, or environmental exposure, causing heart problems to occur more often in certain families.(16)(17) .In our study 72.5% of the students aware of the cause of the Ebstein anomaly.

Surgery is required to treat symptomatic cases of Ebstein's anomaly(18).The goal of surgery is to normalize (as much as possible) the position and the function of the tricuspid valve and reduce the atrialization of the right ventricle.(19)(20).In our study 71.6% of the students aware of the treatment and prevention strategies of Ebstein anomaly.

5. Conclusion:

There is adequate awareness amongst AHS students about Ebstein anomaly of the great. However, enhanced awareness initiatives and educational programmes together with increased importance for curriculum improvements that further promote knowledge and awareness of Ebstein anomaly of the great arteries should be initiated for further understanding and benefits.

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