

Situs Inversus Totalis with Chronic Tonsillitis

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Abstract

Chronic tonsillitis is a inflammatory lesion of pharynx most commonly affecting children in the first decade of life. Situs inversus totalis is a rare congenital condition occurring with an incidence of 1:5000 to 1: 10000 in which there is mirror image transposition of both the abdominal and thoracic visera . The etiology of occurrence of situs inversus totalis is still unknown, such individuals are generally asymptomatic and have a normal life expectancy and the condition may go unnoticed for years. We describe the first reported case of situs inversus totalis with dextrocardia in a teenage patient with chronic tonsillitis.

Keywords: Situs Inversus Totalis; Chronic Tonsillitis; Dextrocardia.

Case Report

A 14 year old male, presented to our ENT out patient department with the complaints of throat pain on and off for the past 3 years and complaints of snoring for the past 1 year. On General examination patient was found to have bilateral jugulo digastric lymph node enlargement. On examination cvs: heart sounds were heard on the right side , apex beat was at the right 5 th intercostal space 1cm medial to midclavicular line. ENT examination: oral cavity was WNL, oropharyngeal examination showed bilateral grade III tonsillar hypertrophy . X ray nasopharynx showed adenoid hypertrophy.

Based on history and clinical examination patient was diagnosed as a case of chronic adenotonsillitis. Chest x ray PA view showed heart in right hemithorax, trachea was found to be in the midline and with normal bronchovascular markings. For evaluation of the heart 2D ECHO was done which showed left aortic arch AV/VA concordance, adequate LV function and Isolated Dextrocardia without anyshunt lesion. Ultrasound abdomen images revealed features suggestive of situs

inversus totalis with normal study of visualised solid intraabdominal structures. Routine blood investigation and ECG was within normal limits. Adenotonsillectomy was performed under GA under antibiotic coverage, Intra operative and post operative period was uneventful. Histopathological examination showed chronic non specific tonsillitis along with diffuse lymphoid hyperplasia.



Fig. 1: x ray chest PA view



Fig. 2: ECHO shows no shunt abnormality



Fig. 3: USG abdomen shows liver in the left hypochondrium

Discussion

Palatine tonsils are a part of Waldeyer's lymphatic ring responsible for the first line of defence against pathogens. Since tonsils play a vital role in our

immune system, they are prone for infection very frequently. Tonsils are more active during childhood and regress with age, in adults only a small amount of lymphatic tissue remains [1]. Tonsillitis is frequently recurrent and rebel to antibiotherapy [2]. Chronic tonsillitis results in many complications of systemic organs like acute otitis media, rhinitis, sinusitis, descending respiratory tract infection, endocarditis, glomerulonephritis [3,4]. The full role of human physiology and immunology and its effects on immune system both local and systemic is not completely understood [5]. Although antibiotic treatment may be sufficient in case of acute tonsillitis, tonsillectomy remains the treatment of choice in case of chronic and recurrent tonsillitis. Situs Inversus Totalis is situs Inversus with Dextrocardia which means mirror images of normal anatomical structures. Leonardo da Vinci 1452-1519 first saw a case of dextrocardia which was later recognised by Marco Aurelio Severino (1643) and described it more than a century later by Matthew Ballie. It is a rare condition with prevalence of 1:10,000 in some population [6]. The exact cause of dextrocardia has been a mystery till date, but several factors have been found to have a link including recessive gene with incomplete penetrance, maternal diabetes, cocaine use, and conjoined twin.

In humans, the right and left axis is determined at the beginning of the embryonic development with the formation of dorso-ventral and cephalo-caudal axis, the cardiac tube when curves to the right is the first sign of asymmetry [7]. Situs inversus totalis is found to have association with Kartagener syndrome [8].

Lutembach's syndrome where there is a combination of congenital ostium secundum ASD with acquired MS.

In our case the patient's ECHO showed no abnormality, no shunt lesion was detected. On routine investigation we found out that the patient has dextrocardia and ultrasonography follow-up showed situs inversus. The active management of these patients is done when there is association with congenital heart defects or associated with syndromic features, otherwise it goes unnoticed with normal life expectancy [9].

Conclusion

Although the health care system is developing across India, rural population still seeks indigenous home remedies as the first line of management for their common ailments. Tonsillectomy is the definitive treatment for chronic tonsillitis patients.

Situs invertus being a rare condition has limited literature available. Our case chronic tonsillitis with situs inversus totalis without any complication is one of a kind. Parents should be counselled and made aware of the near normal life of their child.

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