ABSTRACT

Krimija Hridroga (cardiac disease caused due to worms’ infestations) is a disease described and classified in Ayurvedic which resembles in dental science. While describing cardiac diseases, chronic dental caries is considered as etiological factor for infective cardiac disease. Infect, various conditions like Infective endocarditis, Infective Myocarditis, Myocardial Infarction due to bacterial endocarditis are evidences of bacterial infection traveled from oral cavity to cardiac region. The references found are considered in classification of cardiac diseases in contemporary science. Oral commensal bacteria like streptococcus, staphylococcus are the important etiologic agents in these pathologies. Common dental procedures also may cause bacteremia of oral commensals. Bacteremia itself rarely affects healthy people but they can result in mortal infective endocarditis in persons of predisposed risk for this disease, such as those with heart valve diseases, pacemaker implantation, etc. Thus, this study is an effort to establish and elaborate correlation between Krimija Hridroga and Bacterial endocarditis with the help of dental science and to prove Ayurveda which has already classified the heart pathology and its etiology due to oral pathogenesis before 5000 years in classical texts with its treatment.

KEYWORDS: Krimija Hridroga, Hridroga, Chronic Dental caries, Endocarditis, Bacterial Endocarditis, myocarditis, Pericarditis.

INTRODUCTION

Hridroga existed among the human beings since the prehistoric times. As the name indicates Hridroga is a disease of Hridaya which is considered to be heart in this context. Definition of heart diseases, etiology, pathogenesis and management has been described in Charaka Samhita. According to Acharya Sushruta any condition which produces disturbances in the heart is called as Hridroga. Krimija Hridroga is considered as one type of Hridroga by Acharya Sushruta while Acharya Charaka has considered it as complication of Sannipataja Hridroga.

Krimija Hridroga

The word Krimi is derived from dhatu ‘Kujna Himsayam’ (sidhantakaumudi) which means to kill or to yield harmful effect.

Acharya Sushruta does not include Sannipataja among the four types. He described (i.e. Vataja, Pittaja, Kaphaja and Krimija), While Acharya Charaka described Krimijas a complication of Sannipatajavarvariety. Sannipataja Hridroga is stated to include only combined symptomatology, while, Krimijas said to have a different set of signs and symptoms. The pathogenesis is also separately explained. It is said that the patient afflicted with Krimija Hridroga Tila, Kshira and Guda, if consumed in excess, ‘Granthi’ would be formed where colonization of Krimija would take place. The condition is said to have severe pain associated with pruritus. Aruchi, Hirllasa, Syavametrata, Tamahpravesha are the associated symptoms.

Dental Caries and Infective Endocarditis

Dental caries is one of the most common bacterial diseases and its association with the systemic diseases such as heart disease can cause severe side effect in patients, as infectious foci in the oral cavity can increase the risk of endocarditis. Infective endocarditis is predominantly a disease that occurs in patients with preexisting valvular abnormalities. Infective endocarditis is a potentially fatal disease that is caused by bacterial infection of the endocardium transmitted through the blood stream. In patients with cardiac disease, it is easy for bacteria to adhere with platelets and fibrin in the endocardium and form a bacterial mass, the vegetation, which can lead to development of Infective Endocarditis. Oral bacteria are known to be the main pathogenic factor of Infective endocarditis. The progression of periodontal disease, presence of serious infection, and dental
procedure with bleeding are considered high risk factors for infective endocarditis in patient with cardiac diseases.

**Pathophysiology of Bacterial Endocarditis**

1. Heart Failure
2. Congenital Heart Disease
3. Ischemic Heart Disease
4. Hypertensive Heart Disease
5. Cor Pulmonale
6. Rheumatic Heart Disease
7. Non-rheumatic endocarditis
8. Valvular diseases and deformities
9. Myocardial disease
10. Pericardial disease
11. Tumours of the Heart
Classification of Heart Diseases\textsuperscript{10}\n
This classification of cardiac disease as per allopathy science does not include infective heart disease caused by chronic dental caries.

Signs and Symptoms of Krimija Hridroga and Infective cardiac diseases\textsuperscript{11,12,13}

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<td>Infective Endocarditis</td>
<td>Infective Myocarditis</td>
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<tr>
<td>Shortness of breath</td>
<td>Fever and chills</td>
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<td>Dry cough</td>
<td>Fatigue</td>
<td>Arhythmia</td>
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<td>Fatigue</td>
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<td>Sweating</td>
<td>Shortness of breath</td>
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<td>Pain during breathing</td>
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<td>Tenderness in spleen</td>
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<td>Petechiae</td>
<td>Fluid retention with swelling of legs, ankles and feet</td>
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<td>Unexpected weight loss</td>
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DISCUSSION

The causative factor responsible for chronic dental caries is mainly carbohydrates. While in Ayurveda, the causative factor for Krimija Hridroga is said to be consumption of excessive Tila, Guda, Kshira, etc. which leads to tooth decay and may lead to dental caries. So here, we can correlate that excessive intake of sweets is responsible for both of the diseases. If untreated, in chronic phase, this may develop complications in vital systems of human body. The sign symptoms developed or presented after complications also differs according to the tissue or organ affected.

The Streptococcus mutans, a major pathogen of dental caries, is considered one of the causative agents of infective endocarditis (IE). Bacteria found in tooth plaque may multiply and cause gingivitis. If not treated, this may become advanced. The gums become inflamed and often bleed during toothbrushing, flossing, or certain dental procedures involving manipulation of the gums. When gums bleed, the bacteria can enter the bloodstream and can infect inner lining of the heart and the surfaces of its valves. The bacteria stick to these surfaces and create growths or pockets of bacteria. Thus, it can develop Infective Endocarditis.

CONCLUSION

Krimija Hridroga can be correlated with Infective Endocarditis. The pathogen responsible for Infective Endocarditis is mostly Streptococcus mutans. In Ayurveda, Krimija Hridroga is considered as fatal, same way, Infective Endocarditis is fatal disease. So, treatment protocol described in Ayurveda for such complications has evidently proved successful in practice which can be considered for the clinical research of this subject.

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