

IAP - IJPP CME 2018

ACUTE RHEUMATIC FEVER – CURRENT CONCEPTS***Ritchie Sharon Solomon**

Abstract: *Acute rheumatic fever is the result of an autoimmune response to group A Streptococcus pharyngitis and the long-term damage to cardiac valves is known as rheumatic heart disease and is a notable cause of morbidity and mortality in resource-poor settings around the world. Recognizing the variability in clinical presentation in high-risk population groups, there has been a revision of Jones criteria, which now brings it into closer alignment with other international guidelines for the diagnosis of acute rheumatic fever. Doppler echocardiography has also been included as a tool to diagnose cardiac involvement.*

Keywords: *Rheumatic fever, Jones criteria, Revised.*

Points to Remember

- *Global distribution of ARF/RHD is clearly disproportionate.*
- *Subclinical carditis has been made as a major criterion in all population groups.*
- *Echocardiography/Doppler studies helps to identify pathological regurgitation (mitral/aortic valvulitis)*
- *Aseptic mono arthritis is an important clinical manifestation in specific population groups.*
- *Normal ESR and CRP levels should prompt serious reconsideration of the diagnosis of ARF except in patients with isolated chorea.*

References

1. Lawrence JG, Carapetis JR, Griffiths K, Edwards K, Condon JR. Acute rheumatic fever and rheumatic heart disease: Incidence and progression in the Northern Territory of Australia, 1997 to 2010. *Circulation* 2013; 128:492-501.
2. Beaudoin A, Edison L, Introcaso CE, Goh L, Marrone J, Mejia A, et al. Acute rheumatic fever and rheumatic heart disease among children-American Samoa, 2011-2012. *MMWR Morb Mortal Wkly Rep* 2015; 64:555-558.
3. Doukky R, Abusin SA, Bayissa YA, Kelly RF, Ansari AH. Rheumatic heart disease in modern urban America: a cohort study of immigrant and indigenous patients in Chicago. *Int J Cardiol* 2014; 175:178-180.
4. Rothenbuhler M, O'Sullivan CJ, Stortecky S, Stefanini GG, Spitzer E, Estill J, et al. Active surveillance for rheumatic heart disease in endemic regions: a systematic review and meta-analysis of prevalence among children and adolescents. *Lancet Glob Health* 2014; 2(12): e717-e726.
5. Ben-Pazi H, Stoner JA, Cunningham MW. Dopamine receptor autoantibodies correlate with symptoms in Sydenham's chorea. *PLoS ONE*. 2013; 8:e73516.
6. Husby G, van de Rijn I, Zabriskie JB, Abdin ZH, Williams RC. Antibodies reacting with cytoplasm of subthalamic and caudate nuclei neurons in chorea and acute rheumatic fever. *J Exp Med* 1976; 144:1094-1110.
7. Shikhman AR, Cunningham MW. Immunological mimicry between N-acetyl-beta-D-glucosamine and cytokeratin

* Assistant Professor of Pediatric Cardiology,
Institute of Child Health and Hospital for Children,
Madras Medical College, Chennai.
email: ritchie_sharon@yahoo.com

- peptides. Evidence for a microbially driven anti-keratin antibody response. *J Immunol* 1994; 152:4375-4387.
8. Swerlick RA, Cunningham MW, Hall NK. Monoclonal antibodies cross-reactive with group A streptococci and normal and psoriatic human skin. *J Invest Dermatol* 1986; 87:367-371.
 9. Goldstein I, Halpern B, Robert L. Immunological relationship between streptococcus A polysaccharide and the structural glycoproteins of heart valve. *Nature* 1967; 213:44-47.
 10. Shikhman AR, Cunningham MW. Immunological mimicry between N-acetyl-beta-D-glucosamine and cytokeratin peptides. Evidence for a microbially driven anti-keratin antibody response. *J Immunol* 1994; 152:4375 -4387.
 11. Cunningham MW. Pathogenesis of group A streptococcal infections. *Clin Microbiol Rev* 2000; 13:470-511.
 12. Gewitz MH, Baltimore RS, Tani LY, Sable CA, Shulman ST, Carapetis J, et al. Revision of the Jones Criteria for the diagnosis of acute rheumatic fever in the era of Doppler echocardiography: a scientific statement from the American Heart Association. *Circulation* 2015; 131:1806-1818.
 13. Lanna CC, Tonelli E, Barros MV, Goulart EM, Mota CC. Subclinical rheumatic valvitis: a long-term follow-up. *Cardiol Young* 2003; 13:431-438.
 14. Hilário MO, Andrade JL, Gasparian AB, Carvalho AC, Andrade CT, Len CA. The value of echocardiography in the diagnosis and follow up of rheumatic carditis in children and adolescents: a 2 year prospective study. *J Rheumatol* 2000; 27:1082-1086.