

# Acute Rheumatic Fever in South – East of Turkey: Clinical Features and Epidemiological Evaluation of the Patients over the Last Twenty Years



Erdem S., Ozbarlas N., Arslan A., Ayana M., Canan O., Okuducu Y.K., Gullu U.U., Demir H., Demir F., Kucukosmanoglu O  
Pediatric Cardiology Department, Faculty of Medicine, University of Çukurova, Adana, TURKEY



**Objective:** The aim of this study was to evaluate retrospectively clinical and epidemiological features of rheumatic fever and rheumatic heart disease using last twenty years of data of our hospital, to investigate incidence and seasonal prevalence, to detect changes over time in clinical and epidemiological features by comparing two periods (first 7 and second 13 years).

**Materials and Methods:** The medical records of 396 patients with rheumatic fever (first attack or recurrence), rheumatic heart disease or previous rheumatic fever who admitted to Pediatric Cardiology Department of the Çukurova University between January 1993 and January 2013 were analyzed retrospectively. First period was between 1993 and 2000, and the second 2000 – 2013.

**Results:** There were 206 patient in first period and 190 patients in second period (Figure 1). The mean age of patients was 10.8 years. No significant difference was found between the first and second periods in distributions of age and gender (Figure 2). The peak season for the initial presentation was winter in both period. The estimated incidence rates of acute rheumatic fever were 2.7/100,000 in 2000, 0.7/100,000 in 2012. Among the major findings, the most common included carditis at 81%, arthritis at 75.2%, Sydenham's chorea at 10%, and erythema marginatum at 0.5%, at first period and carditis at 86%, arthritis at 79%, Sydenham's chorea at 18%, and subcutaneous nodules at 1.6%, at second period respectively (Table I). There were no significant differences about major findings between two periods (Table II).

The most commonly affected valve in the patients with carditis was mitral valve alone followed by a combined aortic valve and mitral valve (Table III).

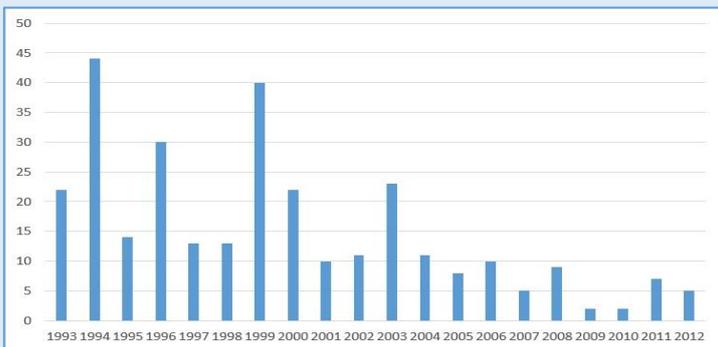


Figure 1. The distribution of patients diagnosed with ARF by years as a graph

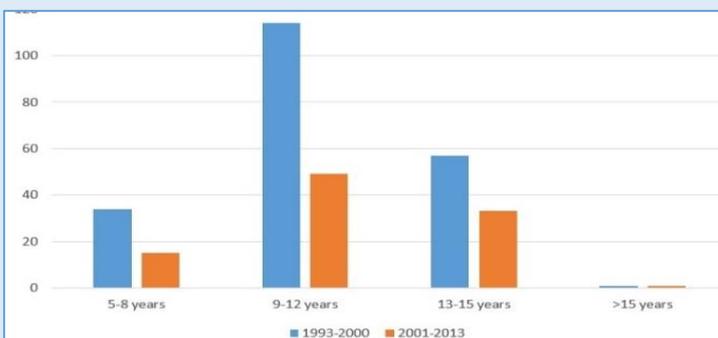


Figure 2. The distribution of patients by age groups with ARF attack

Table I. Distribution of the patients; age at presentation, gender, major and minor manifestations

	1. Period (1993 – 2000 years) N=206	2. Period (2001 – 2013 years) N= 123
Mean age (years)	10.8 ± 2,4 (5 – 16)	10.8 ± 2,6 (6 – 17)
Sex (F / M)	97 / 109 (%47 / %53)	57 / 66 (%46 / %54)
<b>Major manifestations</b>		
Carditis	167 (%81)	106 (%86)
Polyarthritits	155 (%75)	97 (%79)
Chorea	21 (%10)	22 (%18)
Subcutaneous nodules	0	2 (% 1,6)
Erythema marginatum	1 (% 0,5)	0
<b>Minor manifestations</b>		
Arthralgia	143 (%70)	95 (%77)
Fever	144 (%70)	27 (%22)
<b>Acute phase reactions</b>		
- Elevated ESR	113 (%70) (n=160)	94 (%92) (n=102)
- Elevated CRP	48 (%37) (n=131)	73 (%82) (n=89)
Prolonged PR interval	64 (%34) (n=187)	29 (%25) (n=115)
<b>Elevated ASO titers</b>	67 (%52) (n=129)	82 (%84) (n=98)

Table II. Comprehension of the major manifestations between two period

	1993 – 2000 years		2001 – 2013 years	
	Number	%	Number	%
Carditis	34	16.5	10	8
Polyarthritits	31	15	13	10.5
Chorea	8	3.9	4	3
Subcutaneous nodules	0		0	0
Erythema marginatum	1	0.5	0	0
<b>COMBINE</b>				
Carditis + Polyarthritits	120	58.2	76	62
Carditis + Chorea	8	3.9	11	9
Carditis + Subcutaneous nodules	0		1	1
Carditis + Polyarthritits + Chorea	5	2.4	7	6
Carditis + Polyarthritits + Subcutaneous nodules	0		1	1

Table III. Affected valves of the ARF patients.

	1993 – 2000 years		2001 – 2013 years	
	n=167	%	n=106	%
Mitral valve	111	66	48	45
Aortic valve	8	5	5	5
Mitral + Aortic valves	45	27	40	38
Mitral + Tricuspid valves	3	2	5	5
Mitral + Aortic + Tricuspid valves			8	7

**Conclusion:** Although the incidence of acute rheumatic fever has decreased, it still continues to be an important disease can lead to serious morbidity and mortality in our country. In future although genetic factors can not be changed, changes in environmental factors and healthy policy will decrease the frequency of the disease and its complications.

The prevalence and the incidence of ARF will be determined with more precise numbers along with its morbidity and mortality, by the help of the organizing the obligate data banks countrywide, in the future.