

Original Research Article

Clinical profile of acute renal failure

Rekha NH¹, Venkatesha BM²

¹Associate professor, ²Professor

Department of General Medicine, Rajarajeswari Medical College and Hospital, Bangalore, India

*Corresponding author

Dr Rekha NH

Email: drrekahanh@gmail.com

Abstract: Acute Renal Failure (ARF) is a common clinical condition encountered in all medical ICU and medical wards. We did a prospective study of 50 patients admitted with clinical and laboratory evidence of acute renal failure over a period of one year. We observed oliguria and vomiting were common clinical features. We found infections like malaria, acute gastro enteritis, and septicaemia were common etiological factors associated with ARF. In our study, 90% of patients were survived and also found 74% of patients were treated conservatively and 26% of patients treated with hemo dialysis.

Keywords: Acute Renal Failure, ARF.

INTRODUCTION:

Acute Renal Failure (ARF) is a syndrome characterised by rapid (hours to weeks) decline in Glomerular Filtration Rate (GFR) and retention of nitrogenous waste products such as Blood Urea Nitrogen (BUN) and Creatinine. ARF is associated with perturbation of extracellular fluid volume, electrolytes and acid base homeostasis [1, 2].

The kidney being relatively unique among the organs of the body in its ability to recover from almost complete loss of function. ARF is a common clinical condition in hospitalized patients. The incidence of ARF in hospitalized patients is between 2% and 5% [3]. The most common causes of ARF are volume depletion, hypotension, and aminoglycosides antibiotic and radiocontrast agents. Major surgery is also an important cause of ARF. Advanced age, liver diseases, underlying renal insufficiency and diabetes have been implicated as risk factors for the development acute renal failure [4]. This study is under taken to know the clinical profile of Acute Renal Failure in tertiary care centre.

MATERIALS AND METHODS:

Acute Renal Failure is a common clinical condition encountered in all medical and surgical wards. This study is an attempt to analyse the common causes and clinical manifestations of acute renal failure in fifty hospitalized patients. The study included all in patients with clinical and /or biochemical evidence of

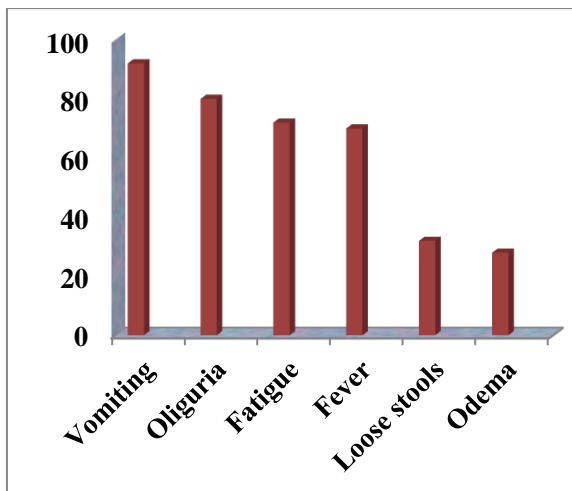
acute renal failure. Patients with pre-existing chronic renal failure or chronic renal disease, patients below 14 years were excluded from the study. Informed consent was obtained from all patients. Institutional ethical committee clearance was taken before study. Data will be presented in form of tables and diagrams. All patients with ARF were subjected to detail history and examination. Blood investigations like complete hemogram, peripheral blood smear for malarial parasite, blood urea, creatinine, serum electrolytes, liver function tests, urine microscopy, and ECG and ultrasound abdomen were done for all patients. Special investigations like IGM for leptospira, 2D ECHO were done whenever necessary.

RESULTS:

Out of 50 patients, 32(64%) were males and 18(36%) were females. Patients were aged between 20 to 65 years with mean age of 48 years. Maximum incidence was seen between 25 to 34 years. Majority of patients with ARF had vomiting 46(92%), oliguria in 40(80%). Other symptoms were fatigue, loose stools and fever (Table 1).

Table 1: Symptoms and signs

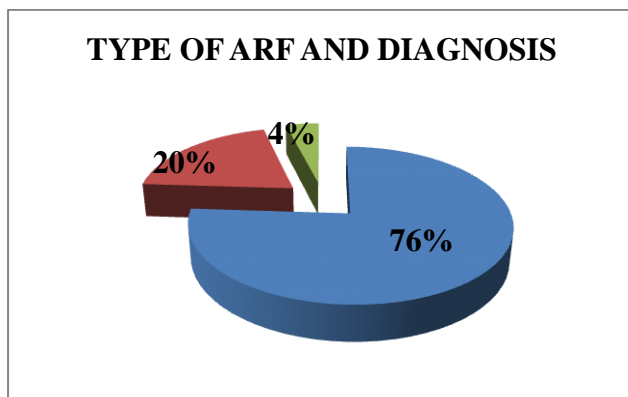
Symptoms and Signs	Number	Percentage
Vomiting	46	92.0
Oliguria	40	80.00
Fatigue	36	72.0
Fever	35	70.00
Loose stools	16	32.0
Edema	14	28.0
Jaundice	12	24.7



30 patients had hypotension at admission and 6 patients had history of nephrotoxic drugs intake and 6 patients were diabetic. We also observed renal ARF was seen in 38(76%) patients, pre renal ARF in 10(20%), and 2 (4%) patients had post renal cause for ARF (Table2).

Table-2: Type of ARF and Diagnosis

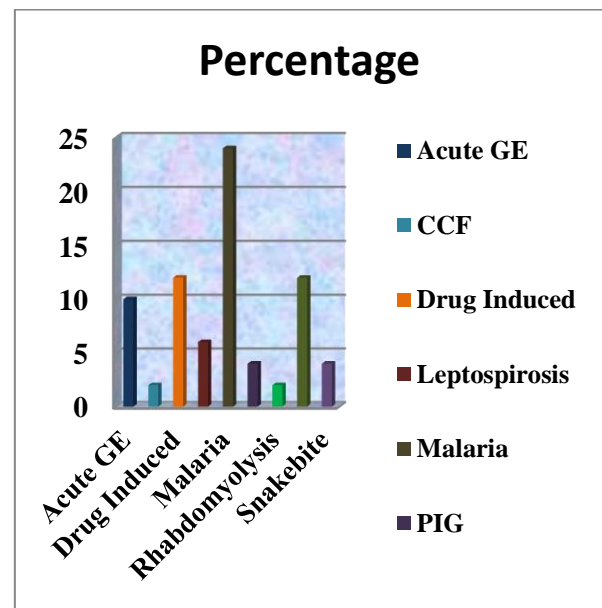
Type of ARF	Number	Percentage
Renal	38	76.0
Pre renal	10	20.0
Post renal	2	4.0
Total	50	100.0



Malaria, Acute GE, septicaemia and nephrotoxic drugs were common cause for ARF (Table 3).

Table – 3

Diagnosis	Number	Percentage
Acute GE	5	10%
CCF	1	2%
Drug induced	6	12%
Leptospirosis	3	6%
Malaria	12	24%
PIG	2	4%
Rhabdomyolysis	1	2%
Septicaemia	6	12%
Snakebite	2	4%



Most of the patients were managed conservatively 37(74%) and 13(26%) patients received hemodialysis. We also observed good outcome survival rate of 90% in our study.

DISCUSSION:

We included around 50 cases in our study who met with inclusion criteria. Out of 50 patients 32(64%) were males and 18(36%) were females. Age group ranged from 20 to 65 years with mean age of 48 years. The ratio of M: F was 1.8:1. The maximum incidence was seen in age group between 25 to 34 years. Common symptoms were vomiting 46(92%), oliguria 40(80%), fatigue 36(72%), fever 35(70%) (Table 1). 16 patients had loose stools and hypotension leading to acute renal failure. We found similar results comparable to study done by Singhal *et al.*; they also found vomiting and oliguria were main presenting symptoms [5]. In our study 70% of patients had h/o fever associated with ARF this likely to be due to infections like malaria, leptospirosis, and septicaemia were main confounding factors leading to acute renal failure (table2). Present study showed hypotension was found in 30% of patients which was comparable to study done by Liano *et al.*; he

also found hypotension in 32% of patients [6]. We found drug nephrotoxicity in 12% of patients; common drugs were Aminoglycosides and NSAIDs. Lithium induced in ARF in one patient. All patients had normal renal functions after discontinuation of offending drugs. Study done by Hakim *et al.*; and Arora P *et al.*; also found drug induced ARF in 12 to 14% of patients [7]. We observed that drug nephrotoxicity in elderly patients with associated co-morbid conditions. We also found medical causes were common cause for acute renal failure. Malaria was predominant etiological factor followed by septicaemia, drug toxicity and acute gastroenteritis. We also observed plasmodium falciparum infections were predominantly associated with ARF. Obstructive uropathy was seen in 4% of patients. Among 50 cases of ARF 37(74%) patients were managed conservatively and 13(26%) patients underwent dialysis (table3). Out of 50 patients 45(90%) survived and 5(10%) patients expired (Fig.1). Those patients who expired had septicaemia and multi-organ failure. The present study showed good results with conservative management and this was comparable with study done by Hakim *et al.*; where they also found 74% of patients were managed conservatively and 26% of patients underwent dialysis [7, 8].

CONCLUSION:

A prospective study of 50 cases of ARF showed M: F of 1.8:1 with maximum incidence between 25 to 35 years. In the study we observed ARF associated with systemic infections was common etiological factors. 90% of patients were recovered with conservative management. Early diagnosis and early interventions were probably responsible for the good survival rate.

REFERENCES:

1. Brady HR, Brenner BM. Acute renal failure. Harrison's Principles of Medicine. 18th Edition. New York; Mcgrow Hill: 2015.
2. Thadani R, Pascual M, Bonvettte VB. Acute Renal failure. New England Journal of Medicine 1996; 30:1448-1451.
3. Hou SH, Bushinsky DA, Wish JB, Cohen JJ, Harrington JT. Hospital-acquired renal insufficiency: a prospective study. The American journal of medicine. 1983 Feb 28; 74(2):243-8.
4. Mindell JA, Chertow GM. A practical approach to acute renal failure. Medical Clinics of North America. 1997 May 1; 81(3):731-48.
5. Singhal AS, Salkar AR, Chaudhary A Fuscya SM. Clinical profile of acute renal failure. JAPI2002; 50:71-73.
6. Liano F, Abero K. Acute renal failure. Kidney International1996; 50:820-824.
7. Arora P, Moorthy V. Acute renal failure in elderly. Nephrology Dialysis Transplant2003; 8:824-830.
8. Bernich B, Levy DW, Chaudhary MD. Pattern of Acute renal failure. Transplantaion proceedings. 2003; 36:1780-1783.