RESULTS

Of 2265 admitted neonates during the studied 2 years, 109 patients were diagnosed as ARF (4.8%).

Table (1): Sex distribution of cases with ARF:

	Number	Percent
Girls	37	33.9%
Boys	72	66.1%
Total	109	100%

15 neonates were excluded based on the criteria determined for the study, and data of 109 patients, including 72 boys (66.1%) and 37 girls (33.9%), were reviewed. Table no.1

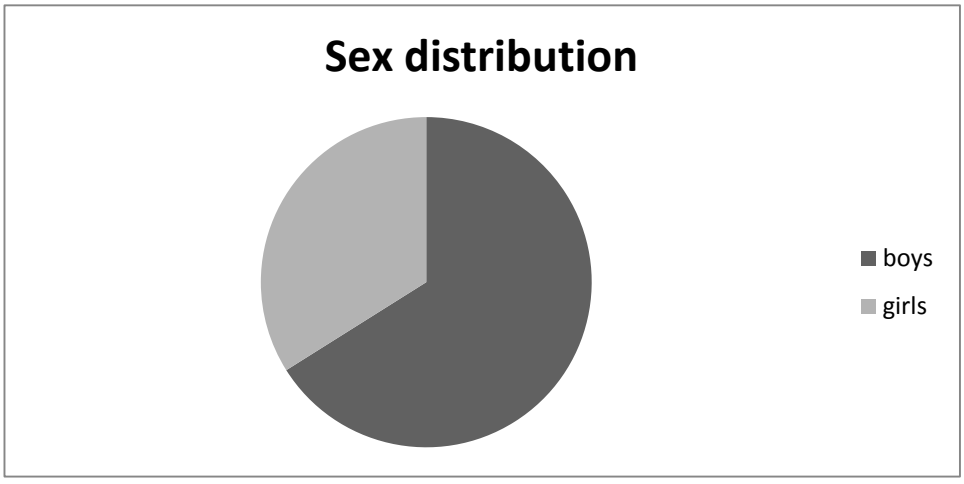

Table (2): Demographic Features of neonates with ARF:

Characteristics	Mean Value	(Range)
Age at admission (day)	6.3 ± 6.9	1 to 28
Gestational age (week)	37.3 ± 3.9	25 to 43
Weight at admission (gram)	2420.0 ± 890.0	850 to 4400

Table (3): Gestational age of diagnosed cases.

	Number	Percent
Full-term	72	66.1%
Preterm	34	31.2%
Post term	3	2.7%

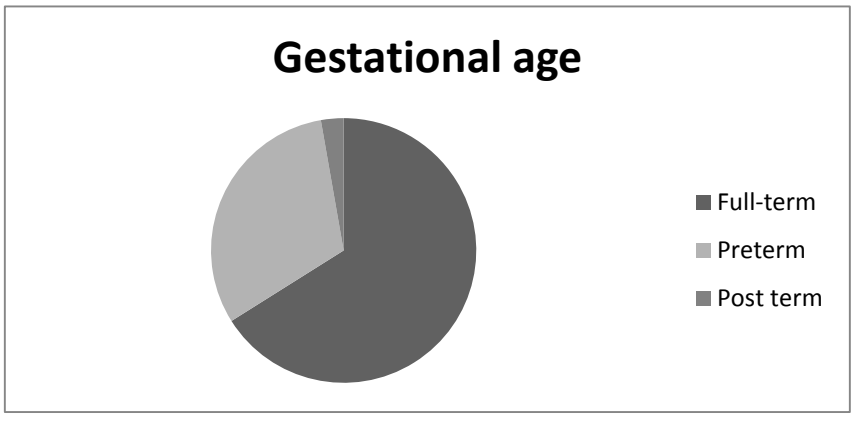

Table (4): Clinical findings in neonates with ARF

Clinical sign	Number	Percent
Tachycardia	15	13.7%
Tachypnea	35	32.1%
Apnea	6	5.5%
Fever	9	8.2%
Hypothermia	5	4.5%
Hypotension	1	0.9%
Hypertension	5	4.5%
Poor reflexes	43	39.4%
Convulsion	17	15.6%
Oedema	15	13.7%
Sclerema	34	31.1%
Vomiting	19	17.4%
Dehydration	21	19.2%
Jaundice	8	7.3%
Cyanosis	7	6.4%
Oliguria	71	65.1%
Polyuria	8	7.3%
Cardiac murmur	10	9.1%

Table (5): Oliguric and non oliguric ARF in diagnosed cases.

	Number	Percent
Oliguria	71	65.2%
No oliguria	38	34.8%

The mean urine out put in diagnosed cases with ARF is 1.58 mL ± 1.12 mL/kg/hour.

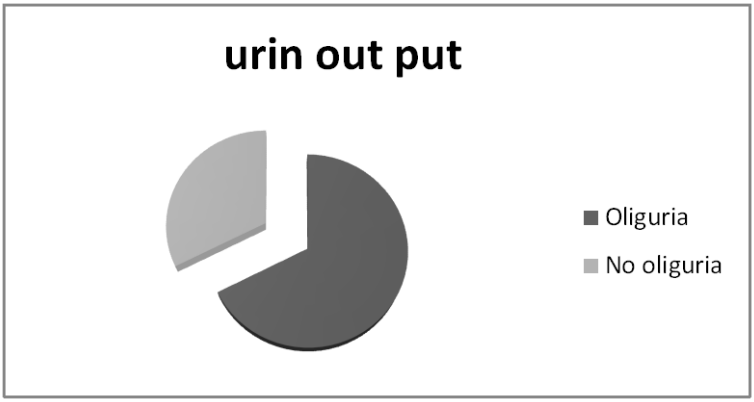

Table (6): Laboratory Findings of Neonates With ARF

Characteristics	Mean Value	(Range)
Serum creatinine, mg/dL	2.11 ± 1.05	1.5 to 10
Blood urea nitrogen, mg/dL	38.99 ± 23.67	14 to 149
Serum sodium, mEq/L	132.49 ± 10.83	109 to 159
Serum potassium, mEq/L	4.57 ± 1.59	2.2 to 8.8
Serum calcium, mg/dL	8.32 ± 1.43	5.2 to 12.8

Table (7): Metabolic acidosis in diagnosed cases.

Acidosis	PH	HCO3	Number
Mild	Below 7.3	Below 16 mEq/L	17
Moderate	Below 7.2	Below 13 mEq/L	4
Severe	Below 7.1	Below 10 mEq/L	5
Profound	Below 7.0	Below 7 mEq/L	4

30 patients (27.5%) developed metabolic acidosis, 17 of them were mild , 4 were moderate, 5 were severe and 4 were profound. Table no.7

Table (8): Ultrasound findings in cases with ARF

Sonographic findings	**Number**
Bilateral hydroureter and hydronephrosis	4
Unilateral hydroureter and hydronephrosis	3
polycystic kidney	3
Multicystic kidney	1
suprarenal hematoma	4
medullary nephrocalcinosis	2
grade Ⅰ nephropathy	1
grade Ⅱ nephropathy	1
Horse shoe kidney	1
No U/S finding	89

Table (9): Type of ARF in diagnosed cases.

Type of ARF	**Number**	**Percent**
Pre-renal	36	33%
Intrinsic renal	69	63.3%
Post-renal	4	3.7%

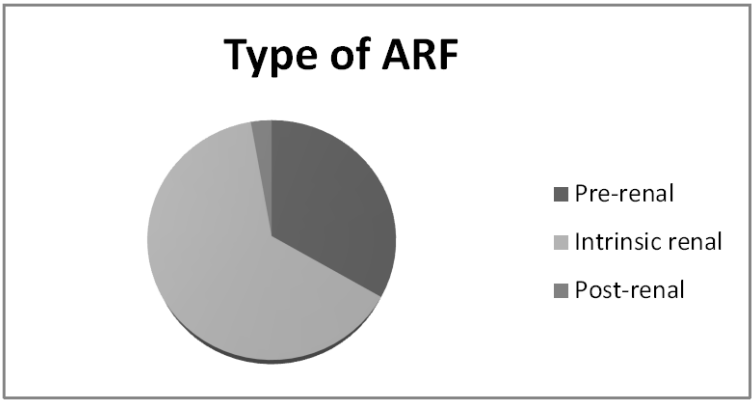

Table (10): Predisposing factors for ARF in cases with ARF.

	Number	Percent
Perinatal asphyxia	22	20%
sepsis	83	76.1%
RDS	22	20%
Dehydration	21	19.2%
Nephrotoxic drugs	62	56.9%
Urinary anomalies	12	11%
Mechanical ventilation	48	44%
Surgical operation	21	19.2%

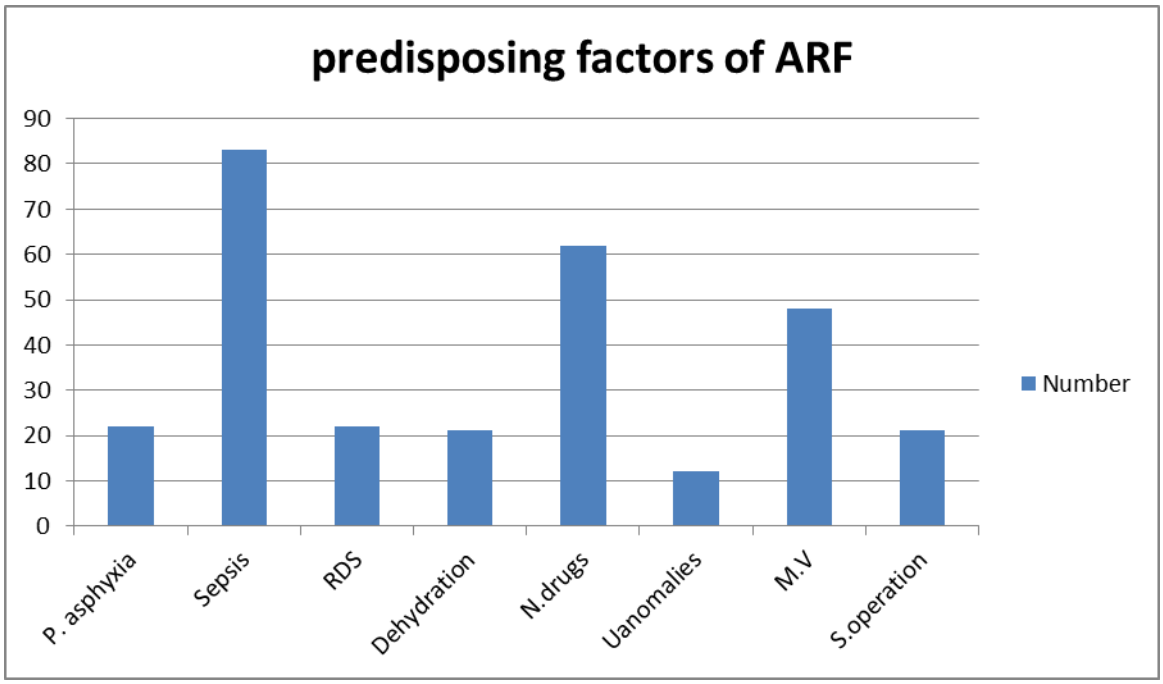

Table (11): Cause of surgery in post surgical ARF.

Cause of surgery	Number	Percent
Intestinal obstruction	6	28.5%
Tracheo-oesophageal fistula	4	19%
Imperforated anus	3	14.1%
Hirsch sprung disease	2	9.6%
Duodenal atresia	2	9.6%
Intestinal perforation	1	4.8
Chronic hypertrophic pyloric stenosis	1	4.8
Hydrocephalus	2	9.6%
Post surgical	21	100%

Table (12): Urinary anomalies in diagnosed cases.

Urinary anomalies	**Number**	**Percent**
Ureteropelvic junction obstruction	1	8.3%
vesicoureteral reflux	3	25%
Posterior urethral valve	3	25%
Polycystic kidney	3	25%
Multicystic kidney	1	8.3%
Horse shoe kidney	1	8.3%
Total	12	100%

Table(13): Number of associated contributing condition:

	Number of patients	percent
More than one	88	80.7%
Single	16	14.7%
Non	5	4.6%

Table (14): Maternal risk factors in diagnosed cases with ARF.

	Number	Percent
Oligohydraminos	4	18.2%
Hypertensive mother	6	27.3%
Diabetic mother	3	13.7%
Pre eclampsia	2	9%
Polyhydraminos	2	9%
Premature rupture of memberanes	4	18.2%
Threatened abortion	1	4.6%
No Risk Factors	87	79.8%

Table (15): Onset of occurrence of ARF in diagnosed cases:

Onset	Number	Percent
At admission	64	58.8%
After admission	45	41.2%

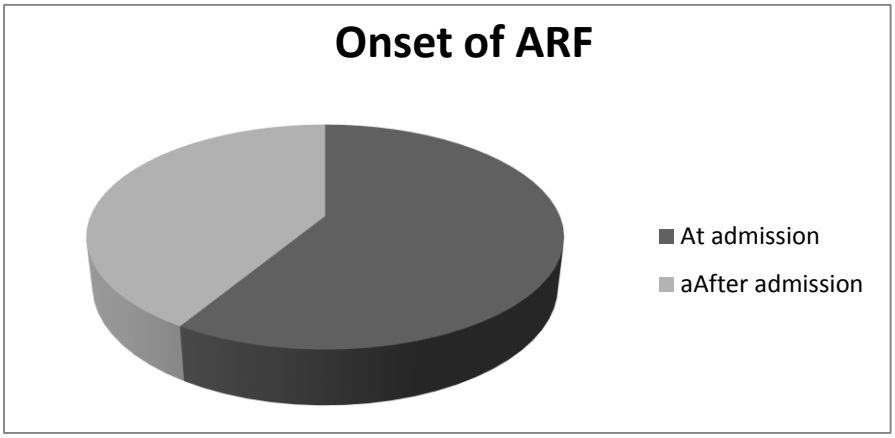

Table (16): Short term outcome of diagnosed cases.

Outcome on discharge	Number	Percent
Normal kidney function on discharge	49	45%
Diminished kidney function on discharge	9	8.2%
Death in hospital	51	46.8%

Table (17): Outcome according to type of renal failure in diagnosed cases.

Outcome	Pre-renal	Intrinsic renal	Post renal
Normal kidney function	14 (38.9%)	32 (46.4%)	3 (75%)
Diminished kidney function	1 (2.8%)	7 (10.2%)	1 (25%)
Death in hospital	21 (58.3%)	30 (43.4%)	0
Total	36	69	4

The frequency of death in the NICU (43 of 84; 51.1%) was significantly more than that in the neonatal surgery unit (8 of 25; 32%).

Table (18): Death and sex.

		Death		Total
		Died	Alive	
Sex:	F	21	16	37
	M	30	42	72
Total		51	58	109
Pearson Chi-Square		2.235 *(P= 0.135)*		

Girls were not significantly more frequent (21 of 37; 56%) than boys (30 of 72; 41%) among the dead cases (*P* = .135).

Table (19): Outcome of 83 patients with sepsis diagnosed with ARF.

Outcome	Number of patients
Normal kidney function on discharge	34 (31.1%)
Diminished kidney function on discharge	8 (7.3%)
Death in hospital	41 (37.6%)

Table (20): Death and sepsis:

		Death		Total
		Died	Alive	
Sepsis:	No	10	16	26
	Yes	41	42	83
Total		51	58	109
Pearson Chi-Square		20.951 *(P= 0.329)*		

Sepsis was not significantly more frequent in the patients who died than in those who survived (*P* = .329)

Table (21): Death and mechanical ventilation:

		Death		Total
		Died	**Alive**	
MV:	No	13	48	61
	Yes	38	10	48
Total		51	58	109
Pearson Chi-Square		36.115 *(P= 0.000)*		

48 patients who needed mechanical ventilation, 38 died (73%). This rate was significantly higher than in those who did not need mechanical ventilation (*P = .000)*.