Result

Total number of patients admitted during the period of this study in different ICUs and percentage of patients with ICU acquired AKI in each ICU, table (11):

The present study comprised 749 patients with ICU-acquired acute kidney injury with prevalence rate 21.2% (total admission of 3350 patients, admitted to different ICUs during the period of the study).

Table (12): **Total number of patients admitted during the period of this study in different ICUs and percentage of patients with ICU acquired AKI in each ICU.**

Cause	Number of patients admitted	Number & % of patients with ICU acquired AKI in each (%) ICU
IMCU	529	189 (35.7%)
CCU	988	138 (14%)
General ICU	2013	422 (21%)
Total	**3530**	**749 (21.2%)**

Age distribution, Table (13):

The age of the patients ranged from 17 years to 86 years (mean 50.6 ± 16.2). The frequency distribution of patients according to age is., from age 17 to 19 years only 25 patients (3.3%) developed ICU acquired AKI. From age 20 to 29 years 62 patients (8.3%) developed ICU acquired AKI, from age 30 to 39 years 94 patients (12.6%), from age 40 to 49 years 149 patients (19.9%), from age 50 to 59 years, 144 patients (19.2%), from age 60 to 69 years 202 patients (27%)-and this represents

the highest incidence rate in different age groups studied, from the age 70 to 79 years, 66 patients (8.8%) and lastly from age 80 to 86 years, only 7 patients (0.9%).

Table (13): Age distribution of ICU acquired AKI patients.

Age range	No. and percent of the patient
17 - 19	25 (3.3%)
20 – 29	62 (8.3%)
30 – 39	94 (12.6%)
40 – 49	149 (19.9%)
50 – 59	144 (19.2%)
60 – 69	202 (27%)
70 – 79	66 (8.8%)
80 – 86	9 (0.9%)

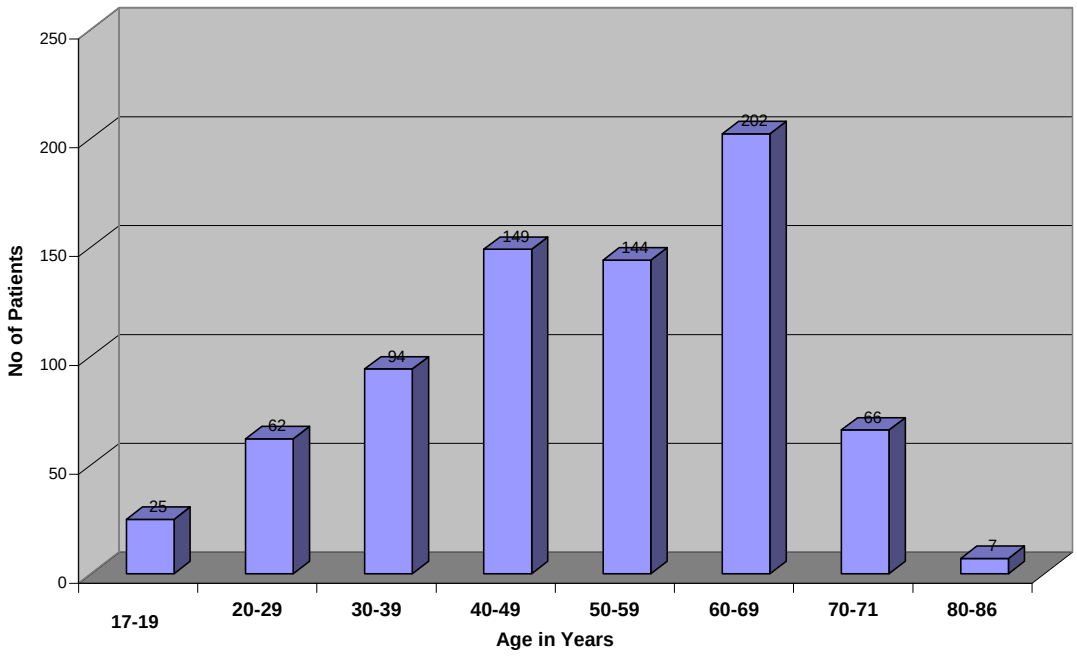

Figure (12): Age distribution.

Sex distribution of 749 patients with ICU acquired, AKI: Table (14):

This study included 537 male patients 71.7% and 212 female patients 28.3%.

***Table (14):* Sex distribution of 749 patients with ICU acquired, AKI.**

sex	Number of patients	
Male	537	71.7%
Female	212	28.3%

Causes of ICU acquired-AKI in (n = 749 patients), Table (15):

ICU acquired-AKI were divided into 6 groups:

- ***Group 1***: patients with ICU acquired AKI due to ischemic ATN (iATN): Two hundred sixty four (264) patients (35.3%).
- ***Group 2***: patients with ICU acquired AKI due to prerenal causes: one hundred ninety eight (198) patients (26.4%).
- ***Group 3*:** patients with ICU acquired AKI due to toxic ATN (T.ATN): sixty four (64) patients (8.5%).
- ***Group 4***: patients with ICU acquired AKI due to sepsis induced AKI: one hundred four (104) patients (13.9%).
- ***Group 5***: patients with ICU acquired AKI due to Hepatorenal syndrome (HRS): eighty one (81) patients (10.8%).
- ***Group 6***: patients with ICU acquired AKI due to other causes:

This group included thirty eight (38) patients (5.1%).

  - Microangiopathies (HUS, TTP, HELLP, DIC) eighteen (18) patients 2.4%.
  - Pigment nephropathy e.g. Rhabdomyolysis nine (9) patients 1.2%.
  - Obstructive uropathy three (3) patients 0.4%.
  - Unknown cause eight (8) patients 1.1%.

Table (15): Causes of ICU acquired-AKI in (n = 749 patients).

Cause of AKI	No. and percent of the patient	
Group 1 (iATN)	264 (35.3%)	
Group 2 (prerenal)	189 (26.4%)	
Group 3 (toxic ATN)	(64 (8.5%)	
Group 4 (sepsis induced AKI)	104 (13.9%)	
Group 5 (HRS)	81 (10.8%)	
Group 6 Other causes (N = 38) 5.1%	Microangiobathies	18 (2.4%
	Pigment nephropathy	9 (1.2%)
	Obstructive uropathy	3 (0.4%)
	Unknown cause	8 (1.1%)

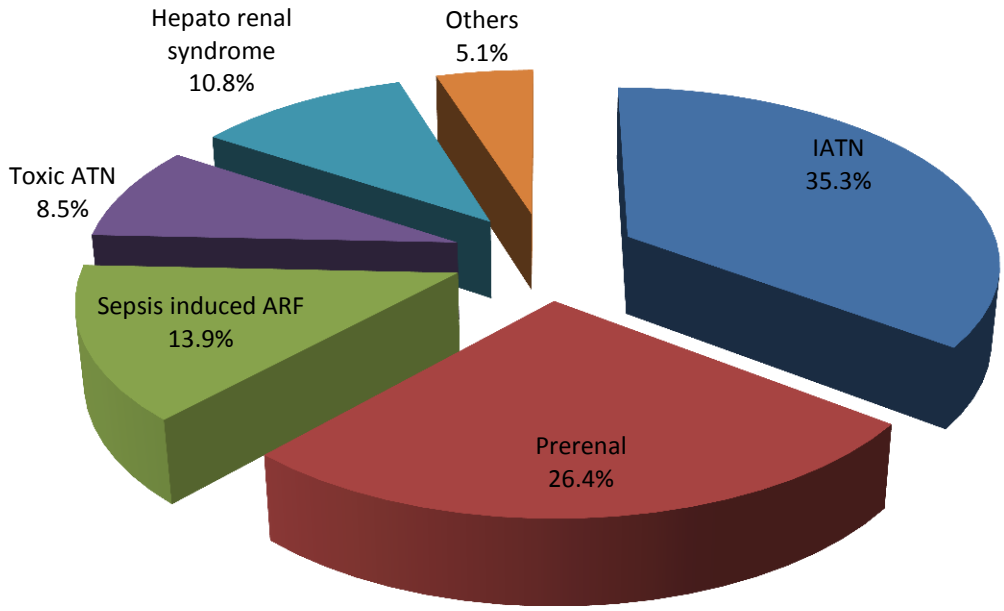

Figure (13): Causes of ICU acquired-AKI in (n = 749 patients)

ICUs distribution:

A) Internal medicine ICU:

It included 189 from total 529 patients admitted during the period of this study, with prevalence of ICU acquired AKI of 35.7%.

Causes of IMICU acquired-AKI in (n = 189 patients), Table (16):

- Eighty one (81) patients (42.8%) due to HRS.
- Fifty five (55) patients (29.1%) due to iATN.
- Thirty three (34) patients (18%) due to prerenal causes.
- Nineteen (19) patients (10.1%) due to sepsis induced AKI.

Table (16): Causes of ICU acquired-AKI in (n = 189 patients).

Cause of AKI	No. and percent of the patient
HRS	81 (42.8%)
iATN	55 (29.1%)
Prerenal causes	34 (18%)
Sepsis induced AKI	19 (10.1%)
Total	189 (100%)

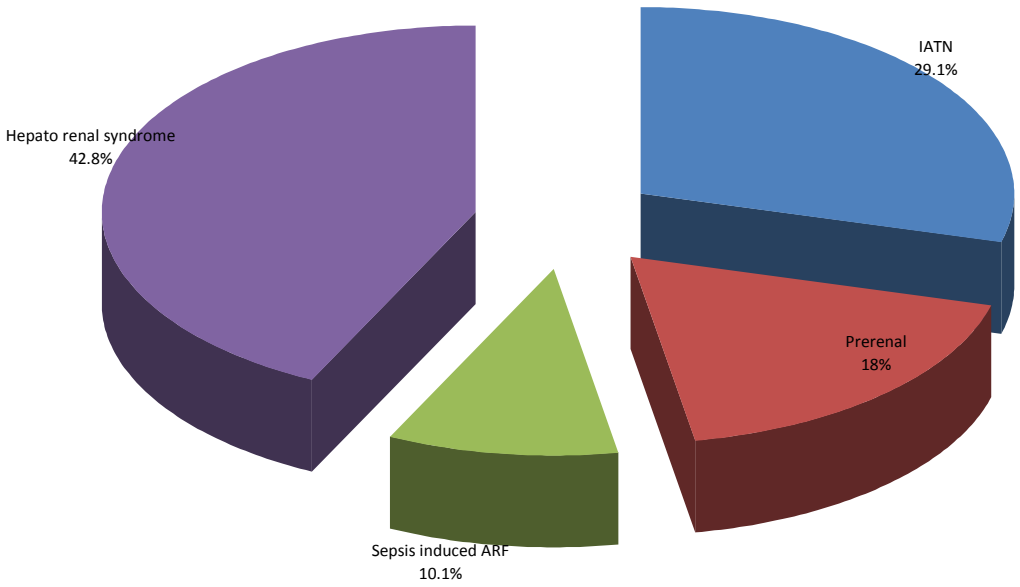

Figure (14): **Causes of IMICU acquired-AKI (n = 189 patients)**

Descriptive distribution of AKI patients in the internal medicine ICU

Table (17):

- **Age:** ranged from 22 years to 73 years old, mean 58±12.9.
- **Sex**: one hundred forty nine (149) male patients (78.8%), and forty (40) female patients (21.2%).
- **UOP*:*** one hundred sixty four (164) patients (86.8%) with oliguria, and twenty five (25) patients (13.2%) with non-oliguric AKI.
- **Serum creatinine concentration**: ranged from 1.9 mg/dL-to-11.7 mg/dl-mean 4.3 ± 1.9.
- **RIFLE staging system**: forty four (44) patients (23.3%) were classified as risk group, fifty five (55) patients (29.1%) were classified as injury group, ninety (90) patients (47.6%) as failure group.
- **AKIN staging system**: fifty one (51) patients (27%) as stage 1, forty six (46) patients (24.3%) as stage 2, ninety two (92) patients (48.7%) as stage 3.
- **Management received:** one hundred eighteen (118) patients (62.4%) were treated with conservative measures, sixty seven (67) patients (35.4%) with HD & four (4) patients (0.5%) with PD.
- **Prognosis:** sixty seven (67) patients (35.4%) survived, fifty seven (57) patients regained normal kidney function (30.2%), eight (8) patients developed chronic kidney disease (4.2%), two (2) patients required regular haemodialysis (1.1%), one hundred twenty two (122) patients (64.6%) died.

Table (17): Descriptive distribution of 189 patients with ICU-acquired AKI in the internal medicine ICU.

		No of patients (%)
Age in year (mean ±SD)		58.0±12.9
Sex	Male	149 (78.8%)
	Female	40 (21.2%)
UOP	Oliguria	164 (86.8%)
	Nonoliguria	25 (13.2%)
	Anuria	Non
SCr (mg/dL) mean ±SD		4.3 ± 1.9
RIFLE	Risk	44 (23.3%)
	Injury	55 (29.1%)
	failure	90 (47.6%)
AKIN	Stage 1	51 (27%)
	Stage 2	46 (24.3%)
	Stage 3	92 (48.7%)
Method of therapy	Conservative	118(62.4%)
	HD	67(35.4%)
	PD	4(0.5%)
Mortality	Died	122(64.6%)

B) Coronary care unit:

One hundred thirty eight (138) patients in the CCU had ICU acquired AKI, from nine hundred eighty eight (988) patients (total admission during the period of this study), with a prevalence rate of (14%).

Causes of CCU acquired-AKI in (n = 138 patients), Table (18):

- Prerenal causes: 58 patients (42%).
- iATN: 40 patients (29%)
- Toxic AKI: 18 patients (13.1%).
- Sepsis induced AKI: 17 patients (12.3%).
- Others: 5 patients (3.6%): two patients due to obstructive uropathy and three patients due to unknown cause.

Table (18): Causes of CCU acquired-AKI in (n = 138 patients).

Cause of AKI	No. and percent of the patient	
Prerenal	58 (42%)	
iATN	40 (29%)	
toxic ATN	18 (13.1%)	
sepsis induced AKI	17 (12.3%)	
Other causes (N = 5) 3.6%	Obstructive uropathy	2 (1.4%)
	Unknown cause	3 (2.2%)

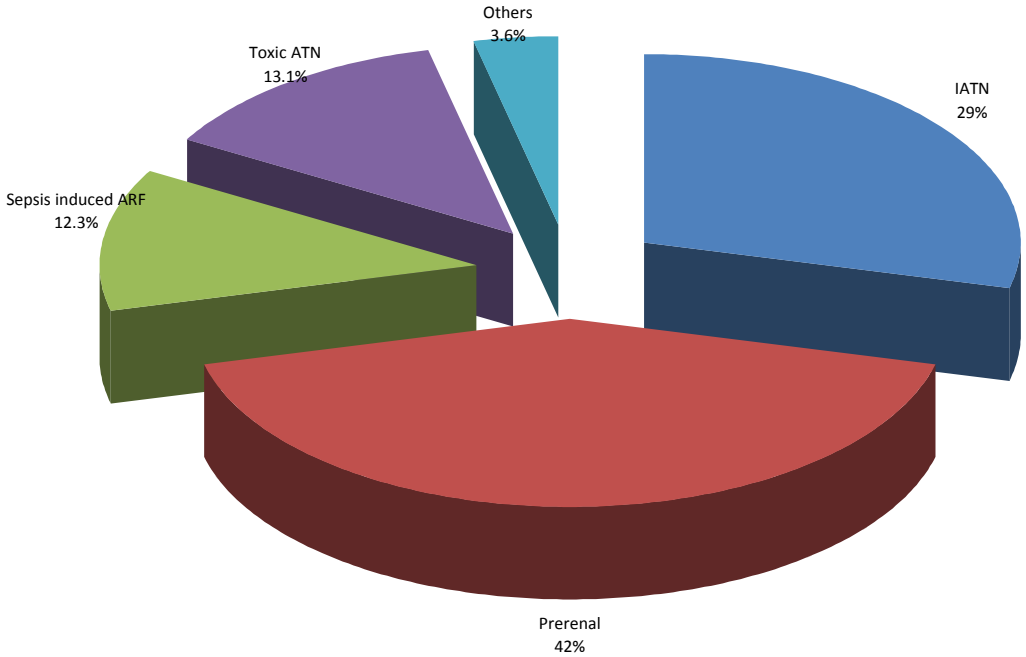

Figure (15): **Causes of CCU acquired AKI.**

Descriptive distribution of 138 patients in CCU, Table (19):

- **Age:** ranged from 37 years to75 years, mean 63.0±12.3.
- **Sex**: ninety five (95) male patients (68.8%), and forty three (43) female patients (31.2%).
- **Urine output:** one hundred eleven (111) non-oliguric patients (80.4%), eighteen (18) oliguric patients (13.1%) and nine (9) patients (6.5%) with anuria.
- **Serum creatinine concentration**: ranged from 1.6 mg/dl to 8.7 mg/dl, mean 4.7 ± 1.7
- **RIFLE staging system**: one hundred thirty three (133) patients fulfilled criteria of RIFLE staging system: twenty nine (29) patients (21.8%) were classified as risk group, thirty six (36) patients (27.1%) were classified as injury group, sixty eight (68) patients (51.1%) as failure group.
- **AKIN staging system**: one hundred thirty eight (138) patients fulfilled criteria of AKIN staging system: thirty seven (37) patients (26.8%) as stage 1, thirty (30) patients (21.7%) as stage 2, seventy one (71) patients (51.4%) as stage 3.
- **Management received:** ninety four (94) patients (68.1%) received Conservative measures, thirty nine (39) patients received HD (28.3%) & five (5) patients received PD (3.6%).
- **Prognosis:** one hundred three (103) patients (74.6%) survived, ninety nine (99) patients regained normal kidney function, four (4) patients developed chronic kidney disease and no one required regular haemodilaysis, thirty five (35) patients (25.4%) died.

Table (19): Descriptive distribution of AKI patients in CCU.

		No of patients (%)
Age in year (mean ±SD)		62.0 ± 14.3
Sex	Male	95 (68.8%)
	Female	43 (31.2%)
UOP	Non-oliguria	111 (80.4%)
	Oliguria	18 (13.1%)
	Anuria	9 (6.5%)
SCr (mg/dL) mean ±SD		4.7 ± 1.7
RIFLE	Risk	29 (21.8)
	Injury	36 (27.1%)
	failure	68 (51.1%)
AKIN	Stage 1	37 (26.8%)
	Stage 2	30 (21.7%)
	Stage 3	71 (51.4%)
Method of therapy	Conservative	94 (68.1%)
	HD	39 (28.3%)
	PD	5 (3.6%)
Mortality	Died	35(25.4%)

C) General intensive care unit:

It included 422 from total 2013 patients admitted during the period of this study, with prevalence of ICU acquired AKI of 21%.

Causes of general ICU acquired-AKI in (n = 422 patients), Table (20):

- One hundred sixty nine (169) patients (40%) due to iATN.
- One hundred six (106) patients (25.1%) due to prerenal causes.
- Sixty eight (68) patients (16.1%) due to sepsis induced AKI.
- Forty six (46) patients (10.9%) due to Toxic AKI.
- Thirty three (33) patients (7.8) due to other causes: sixteen (16) patients due to microangiopathy and three (3) patient due to obstructive uropathy, nine patients due to pigment nephropathy and five patients due to unknown cause.

Table (20): Causes of general ICU acquired-AKI in (n = 422 patients).

Cause of AKI	No. and percent of the patient	
iATN	169 (40%)	
Prerenal	106 (25.1%)	
toxic ATN	68 (16.1%)	
sepsis induced AKI	46 (10.9%)	
Other causes (N = 33) 7.8%	Microangiobathies	16 (3.8%)
	Pigment nephropathy	9 (2.1%)
	Obstructive uropathy	3 (0.7%)
	Unknown cause	5 (1.2%)

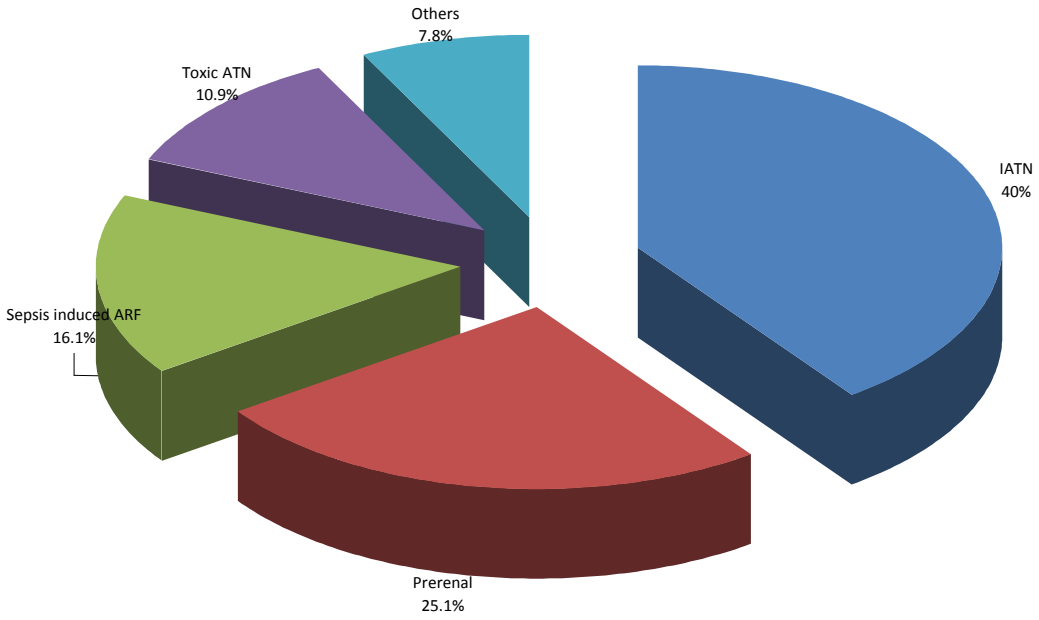

***Figure (16):* Causes of General ICU acquired-AKI in 422 patients.**

Descriptive distribution of AKI patients in the General ICU. **Table (21):**

- **Age:** ranged from 17 years-to-86 years old, mean 61.3 ±12.7.
- **Sex**: 269 male patients (63.7%), and 153 female patients (36.3%).
- **UOP*:*** 339 patients (80.3%) with oliguria, 55 patients (13.1%) with non-oliguric AKI and 28 patients (6.6%) with anuria.
- **Serum creatinine concentration**: ranged from 1.5 mg/dL-to-11.7 mg/dl-mean 4.2 ± 1.9
- **RIFLE staging system**: only four hundred twenty (420) patients fulfilled criteria of RIFLE staging system: one hundred four (104) patients (24.8%) were classified as risk group, one hundred eighteen (118) patients (28.1%) were classified as injury group, one hundred seventy eight (178) patients (42.4%) as failure group.
- **AKIN staging system**: four hundred twenty two (422) patients fulfilled criteria of AKIN staging system: one hundred nine (109) patients (25.8%) as stage 1, seventy five (75) patients (17.8%) as stage 2, two hundred thirty eight (238) patients (56.4%) as stage 3.
- **Management received:** two hundred eighty three (283) patients (67%) were treated with conservative measures, one hundred twenty six (126) patients (29.9%) with HD & 13 patients (3.1%) with PD.
- **Prognosis**: one hundred ninety two (192) patients (45.5%) survived, one hundred eighty three (183) patients regained normal kidney function, six patients developed chronic kidney disease, only three (3) patients required regular haemodialysis and two hundred thirty (230) patients (54.5%) died.

Table (21): Descriptive distribution of AKI patients in the General ICU.

		No of patients (%)
Age in year (mean ±SD)		61.3 ± 12.7
Sex	Male	269 (63.7%)
	Female	153 (36.3%)
UOP	Oliguria	339 (80.3%)
	Nonoliguria	55 (13.1%)
	Anuria	28 (6.6%)
SCr (mg/dL) mean ±SD		4.2 ± 1.9
RIFLE	Risk	104 (24.8%)
	Injury	118 (28.1%)
	failure	178 (42.4%)
AKIN	Stage 1	109 (25.8%)
	Stage 2	75 (17.8%)
	Stage 3	238 (56.4%)
Method of therapy	Conservative	283 (67%)
	HD	126 (29.9%)
	PD	13 (3.1%)
Mortality	Died	230(54.5%)

Prognosis:

Prognosis of patients with ICU acquired AKI (N = 749), table (22):

387 patients (51.7%) from 749 patients-died, 339 (45.3%) survived and regained kidney function back to the baseline, while, only 23 patients (3%) survived with renal failure (with or without regular renal replacement therapy).

Table (22): Prognosis of patients with ICU acquired AKI (N = 749).

Prognosis		No. and percent of the patient
Survived (N = 352) 48.3%	**With normal kidney function**	339 (93.6%)
	With RF ± RRT	23 (6.4%)
Died		387 (51.7%)

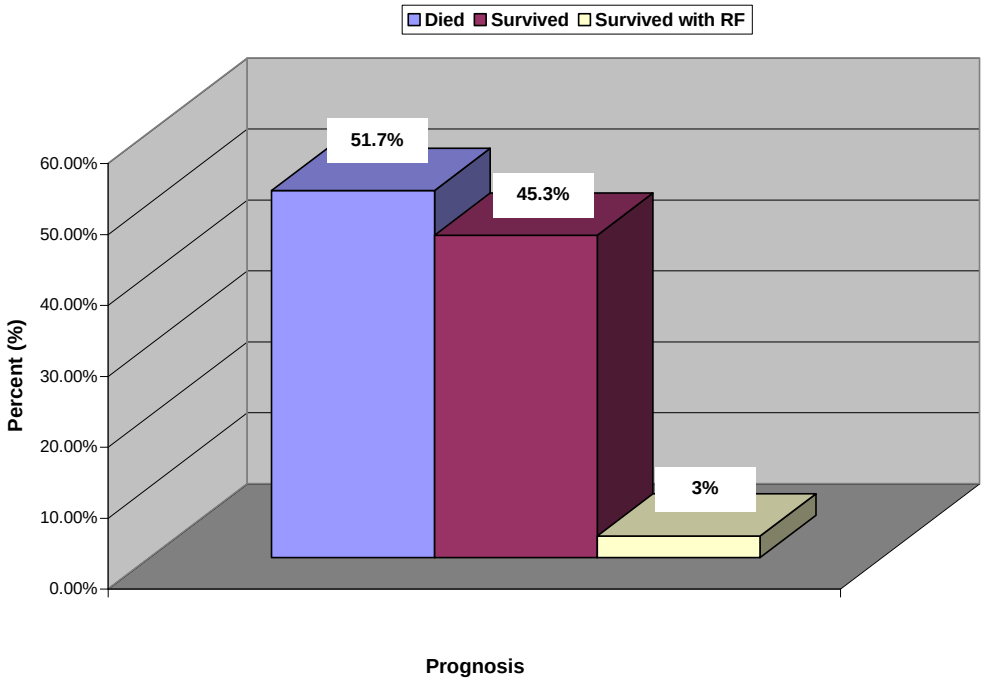

Figure (17): **Prognosis of patients with ICU acquired-AKI.**

Prognosis of patients with ICU acquired-AKI according to cause (n = 749 patients), Table (23):

1. Ini ATN (N=264), 166 patients died (62.9%).
2. From 198 prerenal patients, 28 patients (14.14%) died.
3. From 64 toxic AKI patients, 16 patients (25%) died.
4. From 104 sepsis induced AKI patients, 84 patients (80.8%) died.
5. From 81 HRS patients, 81 patients (100%) died.
6. From other causes (38 patients), 12 patients (31.6%) died.

Table (23): Prognosis of patients with ICU acquired-AKI according to cause.

<table>
<tr><th colspan="2">Cause of AKI</th><th>Total number</th><th colspan="2">No. of died pts</th></tr>
<tr><td colspan="2">iATN</td><td>264</td><td colspan="2">166 (62.9%)</td></tr>
<tr><td colspan="2">Prerenal</td><td>198</td><td colspan="2">28 (14.14%)</td></tr>
<tr><td colspan="2">toxic ATN</td><td>64</td><td colspan="2">16 (25%)</td></tr>
<tr><td colspan="2">sepsis induced AKI</td><td>104</td><td colspan="2">84 (80.8%)</td></tr>
<tr><td colspan="2">HRS</td><td>81</td><td colspan="2">81 (100%)</td></tr>
<tr><td rowspan="4">Other causes</td><td>Microangiobathies</td><td rowspan="4">38</td><td rowspan="4">12 (31.6%)</td><td>9 (75%)</td></tr>
<tr><td>Pigment nephropathy</td><td>2 (17.7%)</td></tr>
<tr><td>Obstructive uropathy</td><td>0</td></tr>
<tr><td>Unknown cause</td><td>1 (7.3%)</td></tr>
</table>

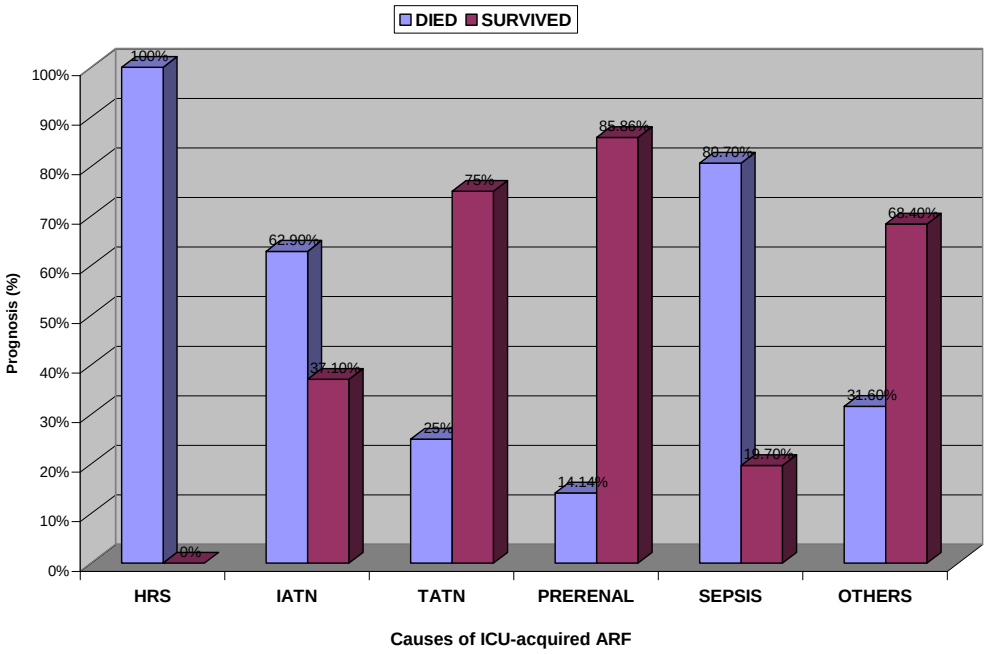

Figure (18): **Prognosis of patients with ICU acquired-AKI according to cause.**

Comparison between Baseline clinical and biochemical characteristics of different groups of ICU acquired AKI, **Table (24):**

There are significant statistical correlations between mechanical ventilation, use vasoactive drugs, HR, SBP, MBP, WBC, platelets, bilirubin, number of organ failure and cause of AKI.

Table (24): Comparison between Baseline clinical and biochemical characteristics of different groups of ICU acquired AKI.

Characteristics	Toxic group (n=64)	Septic group (n=104)	Hepato renal group (n=81)	Pre renal group (n=198)	Ischemic ATN group (n= 264)	P
Age	62.2 ± 12.4	60.3±10.5	61.2 ± 11.4	55.2 ± 13.4	57.2 ± 10.4	> 0.05
Sex	76.6 : 23.4	77.9: 22.1	74.1 : 25.9	74.2 : 25.8	75.8 : 24.2	> 0.05
Mechanical ventilation	54.2 : 45.8	57.3: 42.7	17.8 : 82.2	17.8: 82.2	55.2 : 44.8	< 0.05
Vasoactive drugs	35.8: 64.2	68.2 : 31.8	31.8: 68.2	21.8: 78.2	33.8: 66.2	< 0.05

HR		90.3 ± 11.5	96.3±12.5	78.2 ± 11.3	83.3 ± 11.9	83.3 ± 12.5	< 0.05
RR		22.5 ± 3.9	21.3±4.2	23.6 ± 3.3	23.8 ± 3.7	21.3 ± 4.2	> 0.05
SBP		128.1 ± 21.5	105.3±20.3	111.2 ± 21.6	113.2 ± 21.9	120.3 ± 20.3	< 0.05
MAP		76.1 ± 8.5	57.1±9.3	67.1 ± 8.3	68.1 ± 8.5	78.1 ± 9.3	< 0.05
CVP		9.3 ± 3.9	7.3±4.9	8.2 ± 3.3	5.5 ± 3.4	8.3 ± 3.9	> 0.05
WBCS		12.9 ± 3.4	17.3±3.8	10.5 ± 3.1	11.7 ± 3.3	13.3 ± 3.8	< 0.05
Platlet		127.3 ± 23.1	88.3±25.7	127.9 ± 23.4	127.3 ± 23.1	126.3 ± 25..1	< 0.05
Billirubin		1.25 ± 0.1	1.3±0.2	6.9 ± 1.5	1.23 ± 0.1	1.39 ± 0.6	< 0.05
S. Na		133.4 ± 12.9	138.4±12.9	134.4 ± 13.4	135.4 ± 13.9	135.4 ± 11.9	> 0.05
S. K		4.27 ± 0.88	4.7±1.2	4.25 ± 0.8	4.23 ± 0.89	4.3 ± 1.1	> 0.05
PH		7.33 ± 0.15	7.32±0.1	7.29 ± 0.1	7.3 ± 0.18	7.35 ± 0.2	> 0.05
Bicarbonate		17.9 ± 4.3	14.6±5.4	17.67 ± 3.97	17.7 ± 4.1	18.6 ± 5.9	> 0.05
Po2		92.2 ± 13.1	88.1 ±11.1	90.7 ± 10.9	95.1 ± 12.1	94.2 ± 15.1	> 0.05
Failed organ other than ARF	0	48 (75%)	29 (27.9%)		170 (85.9%)	133 (50.4%)	< 0.05
	1	16 (25%)	25 (24%)	81 (100%)	28 (14.1%)	75 (28.4%)	
	2		12 (3.5%)			38 (14.4%)	
	3 and more		38 (36.5%)			18 (6.8%)	

Comparison between Baseline clinical and biochemical characteristics of patients received renal replacement therapy and patients received conservative treatment, **Table (25):**

There are significant statistical correlations between serum potassium, biocarbonate, and number of organ failure and method of therapy.

Table (25): Comparison between Baseline clinical and biochemical characteristics of patients received renal replacement therapy and patients received conservative treatment.

Characteristics		RRT group (n=254)	Conserative group (n=495)	P
Age		61.9±11.3	60.2±10.9	> 0.05
Sex		70.5:29.5	71.7:28.3	> 0.05
HR		95±10.3	82±9.3	> 0.05
RR		19±2.2	13±4.4	> 0.05
SBP		105.3±9.3	109±12.3	> 0.05
MAP		72.1±6.3	74.3±9.5	> 0.05
CVP		7.5±0.9	8.3±1.4	> 0.05
WBCS		11.3±1.6	10.9±1.7	> 0.05
PLATLET		113.2±22.5	125.7±23.7	> 0.05
Billirubin		2.9±0.4	2.3±0.3	> 0.05
S. Na		123.3±22.3	127.1±20.7	> 0.05
S. K		6.8±1.7	3.6±0.7	< 0.05
PH		7.9±0.3	7.1±0.7	> 0.05
Bicarbonate		15.6±2.3	18.1±5.9	< 0.05
Po2		92.2±10.9	93.8±11.3	> 0.05
(Organ Failure), other than ARF	0	108	310	< 0.05
	1	40	185	
	2	50	-	
	3 and more	56	-	

Comparison between Baseline clinical and biochemical characteristics of Non survivor group and Survivor, **Table (26):**

There are significant statistical correlations between SBP, HR, MAP, Platelet count and number of organ failure, and prognosis.

Table (26): Comparison between Baseline clinical and biochemical characteristics of Non survivor group and Survivor.

characteristics		Non survivor group (n=387)	Survivor group (n=362)	P
Age		63.9±16.3	59.2±10.1	>0.05
Sex		71.5:28.5	71.8:28.2	>0.05
HR		95±10.3	82±9.3	<0.05
RR		18±3.2	14±5.4	>0.05
SBP		95.3±11.5	107±12.3	<0.05
MAP		62.1±9.3	75.3±13.5	<0.05
CVP		8.5±1.3	9.3±2.4	>0.05
WBCS		12.3±3.6	10.9±3.7	>0.05
PLATLET		103.2±23.5	120.7±29.7	<0.05
Billirubin		3.2±0.8	2.6±0.9	>0.05
S. Na		128.3±25.3	131.1±19.7	>0.05
S. K		5.5±1.3	4.3±1.1	>0.05
PH		7.1±1.5	7.2±1.9	>0.05
Bicarbonate		15.6±5.3	17.1±5.9	>0.05
Po2		88.2±10.9	90.8±12.3	>0.05
(Organ Failure), other than ARF	0	182	256	< 0.05
	1	119	106	
	2	50		
	3 and more	56		

RIFLE criteria and AKIN criteria

ICU acquired AKI patients stratified by acute kidney network criteria (n = 749), Table (27):

According to AKIN criteria acute kidney injury occurred in 749 patients (21.2%), with stage1 in197 patients (26.3%), stage2 in 151 patients (20.2%) and stage 3 in 401 patients (53.5 %).

Table (27): ICU acquired AKI patients stratified by acute kidney network criteria.

Stages	No. and percent of the patient
Stage 1	197 (26.3%)
Stage 2	151 (20.2%
Stage 3	401 (53.5%)
Total	**749 (100%)**

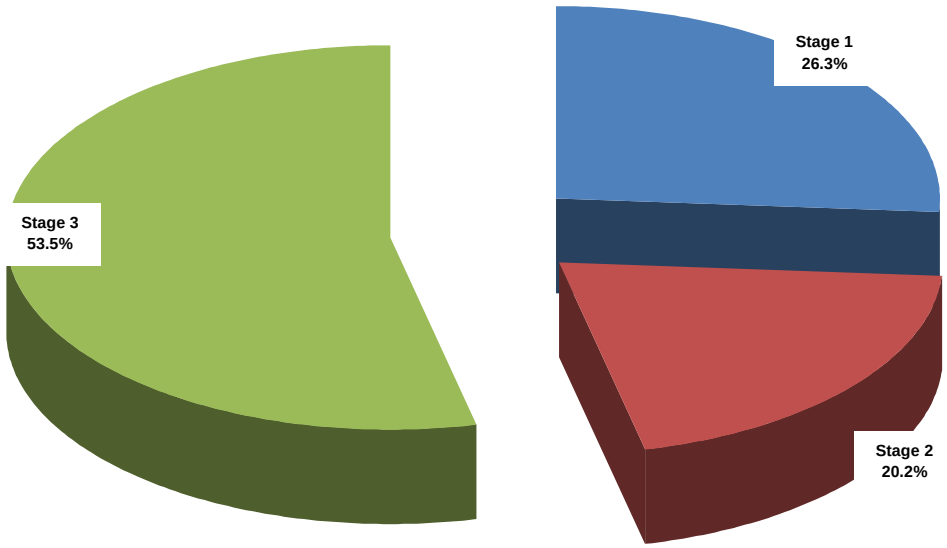

Figure (19): **Show ICU acquired AKI patients (n = 749) stratified by AKIN criteria.**

ICU acquired AKI patients stratified by risk, injury, failure, loss and end stage renal disease (RIFLE) criteria (n = 742), Table (28):

According toRIFLE criteria acute kidney injury occurred in742 patients (21%), with category Risk in 178 patients (24%), Injury in 209 patients (28.2%) and failure in 355 patients (47.8%).

Table (28): ICU acquired AKI patients stratified by risk, injury, failure, loss and end stage renal disease (RIFLE) criteria.

Stages	No. and percent of the patient
Risk	178 (24%)
Injury	209 (28.2%)
Failure	355 (47.8%
Total	**742 (100%)**

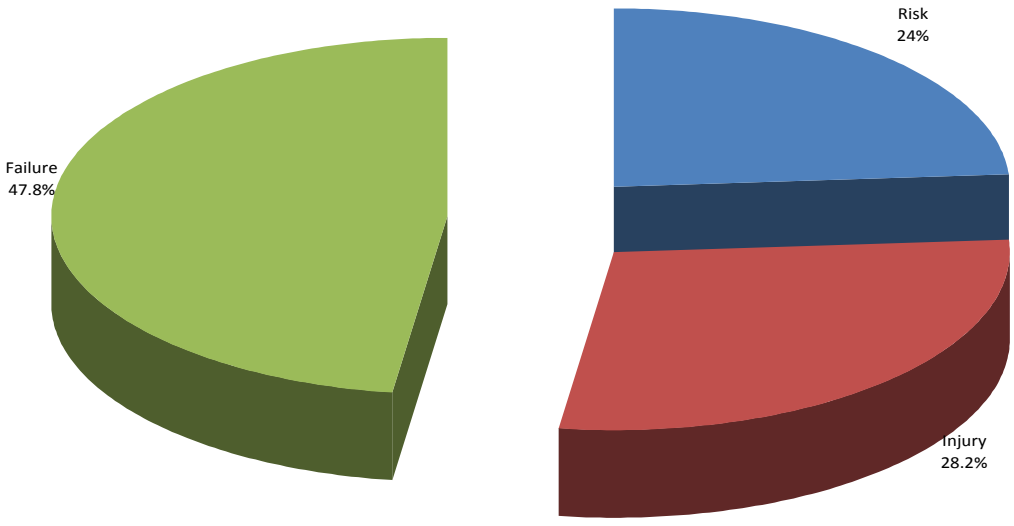

Figure (20): **Show ICU acquired AKI patients stratified by risk, injury, failure, loss and end stage renal disease (RIFLE) criteria**.

Comparison between mortality in different stages in RIFLE & AKIN, Table (29):

Mortality rates were 30.5%, 50.3%, and 52% in AKIN stage 1, stage 2, and stage 3 groups, respectively. There is progressive increase in mortality rate across different classes of AKIN staging system. There are significant statistical differences, P value was in all p value < 0.001.

Mortality rate in class R was 30.9%, in class I was 49.3%, while in class F was 62 %, there is progressive increase in mortality rate across different classes of RIFLE staging system. There are significant statistical differences, P value was in all p value < 0.001.

Comparing corresponding degrees of AKI according to AKIN and RIFLE (stage 1 versus 'risk'; stage 2 versus 'injury'; stage 3 versus 'failure'). There are no significant statistical differences P value was in all p value > 0.05.

Table (29): Comparison between mortality in different stages in RIFLE & AKIN.

Stage of RIFLE versus stage of AKIN	Mortality	P value
Risk v stage 1	31.1% v 30.6%	> 0.05
Injury v stage 2	49.3% v 50.3%	> 0.05
Failure v stage 3	59.2% v 60.6%	> 0.05

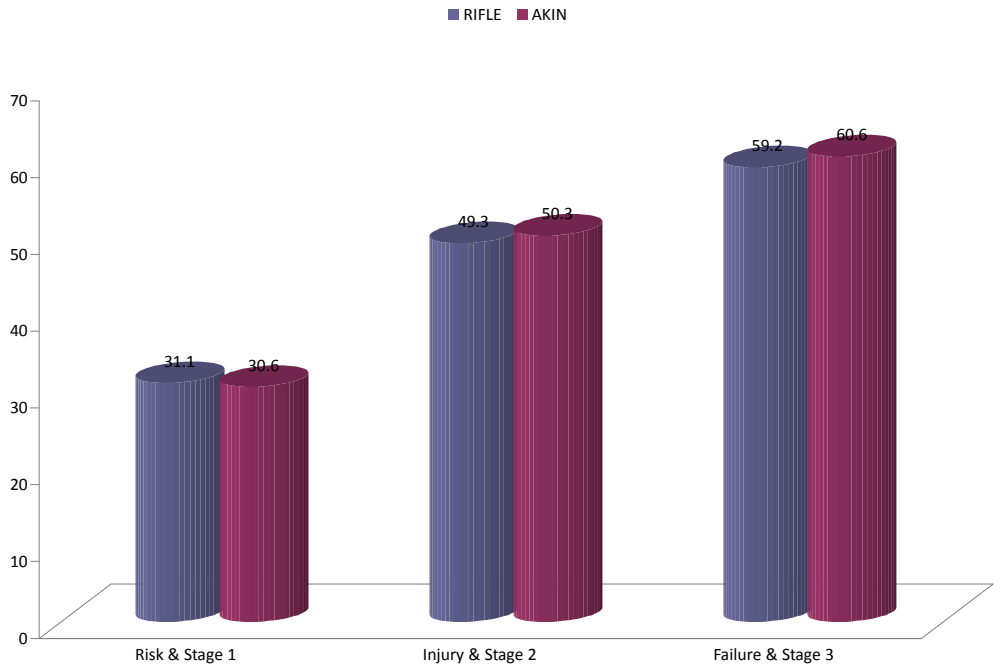

Figure (21): **Comparison between mortality in different stages in RIFLE & AKIN.**