



ISSN NO. 2320-5407

Journal Homepage: - [www.journalijar.com](http://www.journalijar.com)

## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/2698  
DOI URL: <http://dx.doi.org/10.21474/IJAR01/2698>



INTERNATIONAL JOURNAL OF  
ADVANCED RESEARCH (IJAR)  
ISSN 2320-5407  
Journal homepage: <http://www.journalijar.com>  
Journal DOI: 10.21474/IJAR01

### RESEARCH ARTICLE

#### CONCURRENT USE OF MEDICATION AND RISK OF ACUTE KIDNEY INJURY PATIENT ON DIURETIC AND ANGIOTENSIN CONVERTING ENZYME INHIBITOR OR ANGIOTENSIN RECEPTOR BLOCKER WITH NSAIDS

Dr. Manish M. Khokhar<sup>1</sup> and Dr. Ajay C. Tanna<sup>2</sup>.

1. Md Medicine Shree Mp Shah Medical College Jamnagar.
2. Md Medicine Asitance Proffessor Shree Mp Shah Medical College Jamnagar.

#### Manuscript Info

#### Manuscript History

Received: 31 October 2016  
Final Accepted: 01 December 2016  
Published: December 2016

#### Abstract

NSAIDs are most commonly used the drug for chronic condition e.g. arthritis and acute condition e.g. flu. When this patient taking drugs in a combination of double or triple, the increased risk of acute kidney injury in double drug combination 20% compared with a triple drug having 46%.

*Copy Right, IJAR, 2016., All rights reserved.*

#### Introduction:-

Acute kidney **injury (AKI)** is characterized by the sudden impairment of kidney function resulting in the retention of nitrogenous and other waste products normally cleared by the kidneys. AKI is **not a single disease but rather** a designation for a heterogeneous group of conditions that **share common diagnostic features**. Specifically an increase in the blood urea nitrogen (BUN) concentration and/or an increase in the plasma or serum creatinine (SCr) concentration often associated with a reduction in urine volume. AKI can range in severity from asymptomatic and transient changes in laboratory parameters of glomerular filtration rate (GFR) to overwhelming and rapidly fatal derangements in effective circulating volume regulation and electrolyte and acid-base composition of the plasma.

Acute renal failure was defined as acute reductions in renal function associated with a persistent rise in serum creatinine levels to >2 mg/dl despite the absence or correction of hemodynamics and mechanical causes of reduced renal function. Oliguria was defined as daily urine output of <400 ml/day during the azotemic phase of patient illness. Patient of ARF who had urine volume >600 ml throughout the azotemic phase of their illness was classified as Nonoliguric. Severe Acute renal failure is defined as acute and reversible increase in plasma creatinine concentration to > 500 µmol/l. Abrupt renal decline and failure is a final common pathway for a number of disease processes and is associated with significant morbidity and mortality<sup>1</sup>. Most ARF is reversible. The kidney being relatively unique among major organs in its ability to recover from the almost complete loss of function.

We had taken sample size 50 AKI patients who taking NSAIDs with combination

#### Observation:-

As shown in **table 1** patients taking one drug 13, double 14 and on triple drug combination was 23.

TABLE 1			
One drug	Double drug	Triple drug	Total Patients
13	14	23	50

#### Age Incidence:-

**Corresponding Author:- Dr. Manish M. Khokhar.**

Address:- Md Medicine Shree Mp Shah Medical College Jamnagar.

The age distribution of the patients was as shown in table 2. We divided in to two category oliguric and non oliguric. The age group composition of the sample showed increased AKI in 41-50 yr oliguric 14% and non oliguric 16%. Age 31- 40yr oliguric 10% and non oliguric 16%.

	<b>TABLE 2</b>	
<b>Age groups</b>	<b>Oliguric</b>	<b>Non-Oliguric</b>
13-20	3 (6%)	3 (6%)
21-30	0	3 (6%)
31-40	5 (10%)	2 (4%)
41-50	7 (14%)	8 (16%)
51-60	6 (12%)	2 (4%)
61-70	5 (10%)	5 (10%)
71-80	1 (2%)	1 (2%)
<b>Total</b>	<b>50 Patients</b>	

	<b>TABLE 3</b>	
<b>Drugs</b>	<b>Patients</b>	<b>AKI</b>
<b>Diuretic Only</b>	3	6%
<b>NSAIDs</b>	10	20%
<b>Diuretic + NSAIDs</b>	4	8%
<b>ACE or ARB + NSAIDs</b>	10	20%
<b>ACE + Diuretic+NSAIDs</b>	23	<b>46%</b>
<b>Total</b>	<b>50</b>	<b>100%</b>

As showed in table 3 only single drug taking nsaid 20% having AKI, with combination diuretic with nsaid 8%, ACE or ARB +NSAIDS having AKI was 20%. With triple drugs combination ACE+DIURETIC+NSAIDs had 46% AKI.

### Conclusion:-

Acute kidney injury is a major public health concern, which has been associated with a mortality rate exceeding 50%.The proper use of antihypertensive drugs has been shown to have a favorable effect in preventing major cardiovascular events. However, the use of such therapies might be concurrent with chronic (for example, arthritis) and acute (for example, flu and flu-like syndromes) inflammatory diseases that require anti-inflammatory or analgesic drug treatment. Given that NSAIDs are widely used (40-60% as lifetime prevalence in the general population and that a greater incidence rate of acute kidney injury was estimated among antihypertensive drugs users than in the general population, increased vigilance may be warranted when diuretics and angiotensin converting enzyme inhibitors or angiotensin receptor blockers are used concurrently with In particular, major attention should be paid early in the course of treatment, and a more appropriate use and choice among the available anti-inflammatory or analgesic drugs could, therefore, be applied in clinical practice.

### References:-

1. Harrison's Principle of Medicine (19th Edition)
2. Oxford Text Book of Clinical Nephrology - Volume-II,
3. Acute Renal Failure: (Multivariate Analysis of Causes and Risk Factors), August 1982, the American Journal of Medicine, Volume-73, (211).