





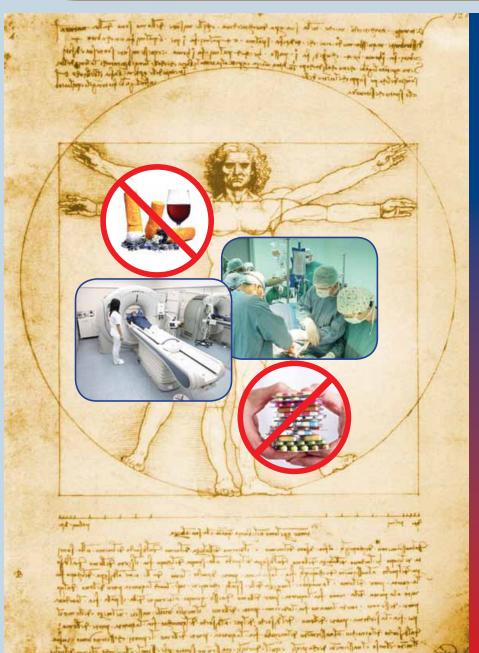


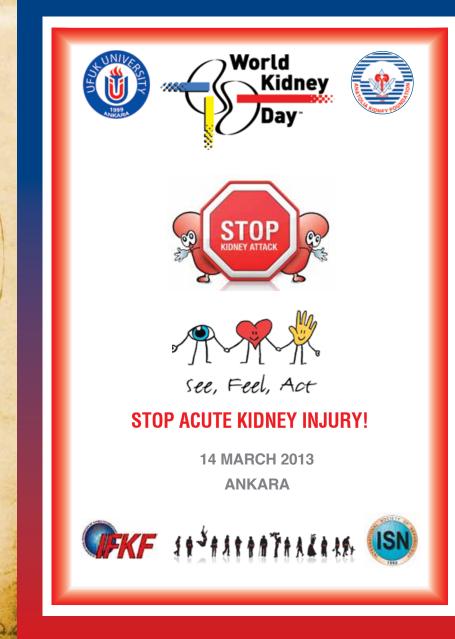




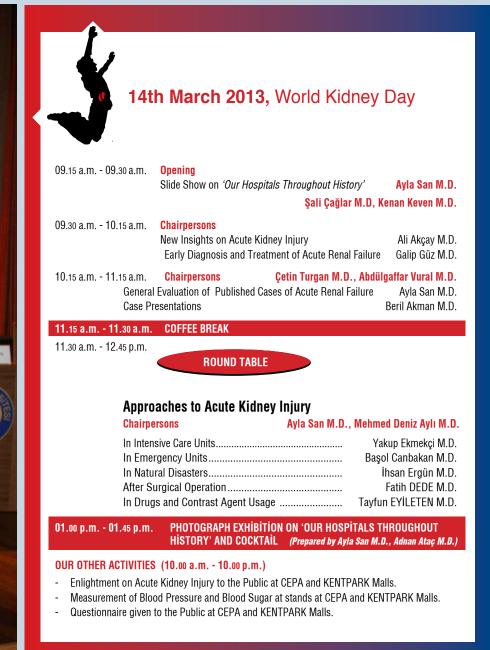
Our Scientific Activities

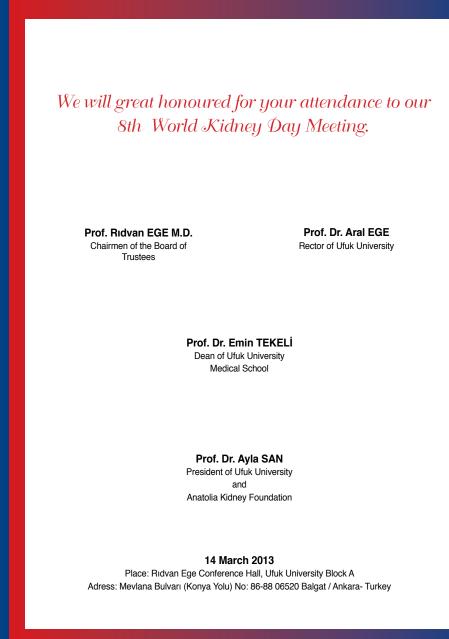
Ufuk University Prof. Ridvan Ege, MD Conference Hall. 14th March, 2013









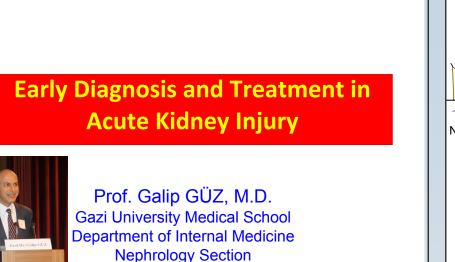


New Insights Early Diagnosis and Treatment of Acute Kidney Injury

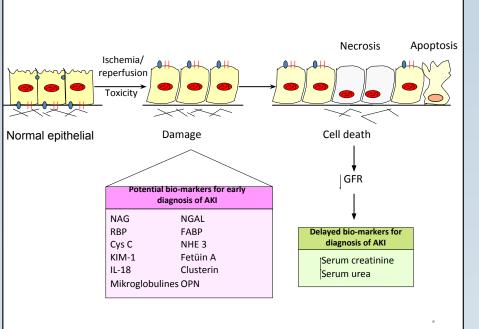
New Insights on Acute Kidney Injury



Prof. Dr. Ali AKÇAY, M.D. Turgut Özal University Medical School 14 March 2013



ANKARA



Why we need new opinions about

Acute Kidney Injury?

•AKI incidence is increasing steadily (especially in hospitalized

 A slight injury in the kidney causes very serious consequences. •Clinically, most patients with advanced disease (oliguria / dialysis)

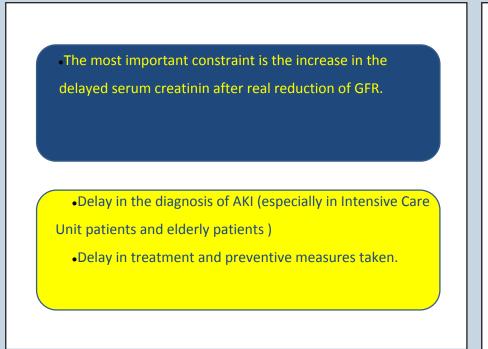
are taken into account (are described in classic books and reviews

•Diagnosis of AKI is still based on the level of serum creatinine and

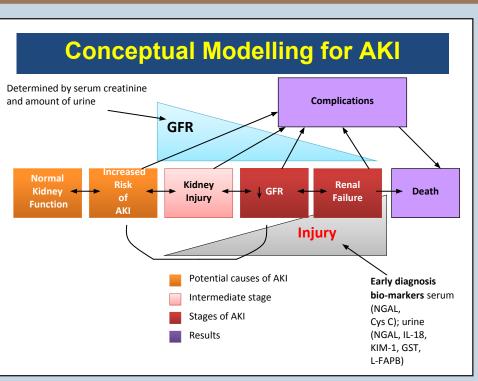
•The morbidity and mortality of AKI are relatively high.

•Standards of diagnosis or treatment are not settled.

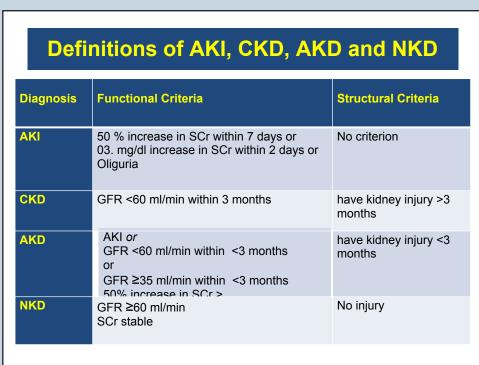
advanced stages of AKI)



Do	evelopment Process of E	Bio-markers
AK	l e	CKD
Serum Creatinine 1926		Serum Creatinine 1926
Discovery of bio- markers	The use of bio-markers in human study	Creatinine Clerance 1933
		Cockcroft Gault formula 1976
KIM-1 1961 —	Urine KIM-1 2002	Serum Cyctatin C 1985
Cystatin C 1968 —	Serum Cystatin C 1985	MDRD formula 1999
IL-18 1985 —	Urine IL-18 2004	
NGAL 1993 —	Urine NGAL 2005	



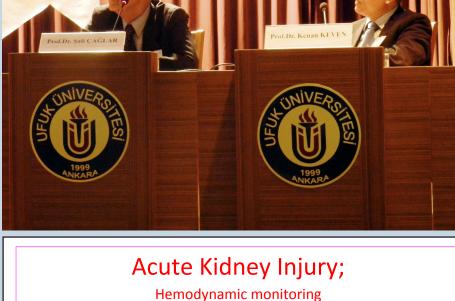
L-FAPB)
Acute Kidney Injury; Hemodynamic monitoring
 AKI or risk presence of AKI requires to monitor closely the condition of patient. Hypotension ⇒ decreased renal perfusion ⇒ AKI Renal autoregulation has been impaired in damaged kidney.
 Mean arterial pressure should be > 65 mmHg Monitoring of blood pressure and cardiac output should be done, fluid and vasopressor drugs should



Acute Kidney Injury; Hemodynamic monitoring



agents)



AKI related with prerenal factors; Volume status monitoring; Contributing factors should be determined •Physical examination, inspection of the neck veins, •Hemodynamic resuscitation should be started blood pressure and heart rate In acute or severe cases; Intravascular volume quickly should be normalized •Should be kept in mind that hydration IV is adequate in many patients. What will happen to fluid resuscitation is

 Proper oxygenation and hemoglobin (> 7 g / dL) should be provided •Mean arterial pressure should be > 65-70 mmHg should be (if required vasopressor

- Central venous catheters, arterial cannulation, cardiac

Invasive hemodynamic monitoring

General Evaluation of Published Acute Kidney Injury Cases

be chosen carefully



President of Neph. Sec.

ur Nephrology Registry Systems began in 1990. ARF started to be evaluated in the records of 1992. Data of adult nephrology clinics in Turkey (1992-1993): In our country, the majority of patients who are hospitalized in Nephrology clinics are the people with chronic renal failure, which is followed by patients with chronic glomerulonephritis. Diabetic nephropathy is less than that in the western countries (4.7%).

Number of cases according to the records of Turkish Society of Nephrology: 1994 (645), 1995 (510), 1996 (1178), 1997 (1635), 1998 (1739), 1999 (1963), 2000 (1672) (Number of patients by years).

Statistical data related to patients with ARF in 2006: In 2006, patients with ARF were focused on. Age Distribution: 0-15 (0.3%), 16-19 (3.8%), 20-44 (28.9%), 45-64 (30.9%), 65-74 (26.3%), 75 (9.8%).

Etiology: Hypovolemia (22.1%), cardiovascular failure (15.2%), urinary tract obstruction (12.1%), sepsis (11.1%), acute tubular necrosis-postischemic (8.9%), acute tubular necrosis-nephrotoxic (8.8%), due to unknown reasons (8.9%), other (13%). Dialysis Treatment: 53.9%

2007: Number of centers: 59, Number of reference to the center in a year: 112,169, the number of patients diagnosed with acute renal failure: 5498.

Since then, up to present ARF hasn't entered the registry system of Turkish Society of Nephrology.

The situation in our country: ARF datas have not been recorded since 2007 so we felt the need to review the publications on this subject to get to a point. We wanted to reach an evaluation with the help of publication. We tried to help to emerge the important reasons which form ARF. The published articles between 1980-2013: We had access to 60 publications about ARF in a little while. 6 articles are related to earthquakes. 2 of them to Erzincan Earthquake (13 March 1992), 1 of them to Marmara and Duzce earthquake (17th August 1999 and 12th Kasım1999), 1 of them to Marmara Earthquake (17 August 1999), 2 of them to Van Earthquake (23 October 2011). One article is related to 9 Crush Syndrome cases in which the victim stayed under the debris of Zümrüt Apartment which collapsed in Konya (2nd February 2004), 27 articles are related to single cases. 6 articles are related to criteria of RIFLE, AKI, AKIN. Multiple cases are presented in 33 articles. In our opinion, the most important point is that earthquakes should have the prior focus. Therefore, this issue will be discussed urgently.

THE ARTICLES RELATED TO EARTHQUAKES:

In the last century, 11 earthquakes occured which sizes were above 7, in our country which is on the major fault lines. Among them, those who Leaused the loss of many lives; Erzincan earthquake in 1939 (32,962 people died, 43953 people injured) and Marmara earthquake in 1999 (17,480 people died). Aproximately 700 people were killed in Van Earthquake in 2011. After Marmara Earthquake a research prepared on 330 injured people who were referred to the hospital, the scientists indicated that the deaths occured due to CRUSH syndrome in 21% and vital organ injury in 17,5%. After Marmara Earthquake physicians detected failure in renal functions of 639 (12%) of 5302 patients who were hospitalized in 35 different hospitals. 477 of these individuals

(74.6%) underwent dialysis treatment. 97 of 639 injured patients died (15.2%), but chronic renal failure didn't developed in none of the survivors.

- Should be kept in mind that liquids containing high

molecules may be nephrotoxic

Acute renal failure cases due to traumatic rhabdomyolysis occured in Erzincan earthquake: A. San et al, Atatürk Üni., Proc. 3rd Int. Satel. Symposium on ARF, Halkidiki, 1993: 314 cases reached our hospital after the Erzincan Earthquake on 13th March 1992. Traumatic acute renal failure due to rhabdomyolysis was observed in 7 patients in the nephrology clinic. Also, there were other etiologic factors in three of them (nephrotoxic drugs, hypovolemic shock, etc.).

Two patients with acute renal failure remained under the rubble for the longest duration after the earthquake, A. San et al, Proc. 3rd Int Satel. Symposium on ARF, Halkidiki 1993: We followed two patients with traumatic rhabdomyolyse. One of them was a male patient who came out from the debris after 7 days in Horasan Earthquake in 1983 (He survived under the debris for the second longest time in Turkey).



The other one was a female patient (Nurse Nurcan Eraslan) who came out from the debris after 9 days in Erzincan Earthquake in 1992. She is the person who has been under the debris longest in Turkey.

✓ The other cases related to victims rescued from, under the debris for the longest time in Turkey: 5 year old İsmail Çimen who was the last person to come out from the debris as alive and was called 'miracle child of earthquake' in 17th August Earthquake, he was

rescued from the debris of Site of Çamlık which was built by contractor Veli Göçer on the 7th day (The other second person). Serhat Tokay was rescued alive from debris after 108 hours in Van Erciş Earthquake (3rd person).

Buried for 27 days: Haiti earthquake survivor's amazing story

Trapped in the rubble for one month after Haiti's massive earthquake, Evans Monsignac was thought that he was dead.

He is the man thought to be the longest-ever earthquake survivor.

Evans Monsignac survived after staying 27 days buried underneath earthquake rubble, in Port-au-Prince, Haiti. Mr. Monsignac, 27, a father of two, was the last person found alive under the debris after an earthquake levelled Port-au-Prince on Jan 12, 2010. His relatives say simply that someone, they do not know who, came across him while working through the rubble on Feb 8, 2010 and rushed him, delusional and rambling, to an emergency clinic.

The causes of mortality in crush syndrome, G. Kantarci et al. Marmara Uni., Journal of the Turkish Nephrology, Dialysis and Transplantation, 2002;ll(4):211-214: During 17th August 1999 Marmara and 12 November 1999 Düzce Earthquakes, 519 earthquake victims were admitted to our hospital, and aioglobinuric acute renal failure developed in 89 due to crush injury (17:14%), The dialysis was required in 59 of them (66.3%). 19 of them died during the follow-up in hospital (3.6%).