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**Document Title** : New Biochemical markers for early detection of renal injuries and other diseases  
بعض المؤشرات البيوكيميائية الحديثة للتشخيص المبكر لاصابات الكلى والامراض الأخرى

**Document Language** : Arabic

**Abstract** : The urine of Saudi control subjects and Saudi patients suffering from, diabetes mellitus, impaired renal function and post renal transplants was investigated. Results from control subjects showed a slight elevation in total protein in females. Microalbuminuria, glucose, and pH results were in close agreement with the published data and no sex differences were recorded. Urinary NAG activity showed slight -elevation in females when compared with that of males. This may be probably due to the higher levels of creatinine concentration in male subjects, that would result in a decrease of NAG activity when expressed in terms of  $\mu$ -creatinine. A marked decrease was found in total urinary alkaline phosphatase (ALP) due to storage problems and a close agreement to the literature data was found in alanine aminopeptidase (AAP) results. In diabetes mellitus, the total urinary NAG, microalbuminuria, AAP, and ALP showed increased levels. These elevations are not simply due to age discrepancy alone as the degree of elevation in the diabetic population was greater than would have been expected from age difference alone. NAG activity was found to be higher in IDDM normotensive patients than in NIDDM normotensive diabetics. In IDDM and NIDDM diabetics microalbuminuria was found to be higher in hypertensive patients than in normotensive ones. In hypertensive patients total protein showed higher value in IDDM diabetics than in NIDDM. The decrease of creatinine concentration in kidney patients does not account for the elevation in other parameters. This elevation is probably due to the dysfunction of their kidneys which may be damaged. The parameters investigated may not be useful in diagnosing late stage of kidney failure but they might be useful in monitoring the progress of the disease and studying the effect of the treatment of established renal failure. Parameters investigated for kidney transplants indicate that the recipients are in uncomplicated stage. These parameters may be suggested as useful markers for early detection of the above mentioned diseases in the Saudi population, and the NAG assay may be used as an alternative measurements for renal dysfunction. As it might be expected that the reference intervals in Saudi population may differ from the published ones we tried to establish reference intervals for the above mentioned constituents and activities. ~