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### SELECTIVE EVALUATION OF TWO URINARY ENZYMES (NAG AND AAP) BEFORE AND AFTER UNILATERAL SHOCK WAVE LITHOTRIPSY

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#### Abstract:

Biological effects extracorporeal shock wave lithotripsy (ESWL) is not precisely known. We have evaluated two urinary enzymes activity N-acetyl-B-D-glucosamine (NAG) and alanine amino peptidase (AAP) before and after unilateral ESWL as markers for renal parenchymal damage. Forty eight patients with kidney stones (mean age 39) who had presented for the first time or at least one year after their previous lithotripsy underwent ESWL. Urinary specimens were collected before and after first, third and seventh days of lithotripsy and NAG, AAP were evaluated. These enzymes displayed the greatest activity 24 hours after ESWL with significant difference compared to the control group, ( $P < 0.05$  versus  $0.02$ ). Elevation of urinary enzymes activity correlated with stone size particularly stones larger than 2 cm. These data suggest that there is some tubular and parenchymal damage induced by ESWL that needs time to get improved. The higher urinary enzyme activity in patients with larger stones ( $> 2$  cm) is probably related to injury resulting from passage of smaller stones, produced after lithotripsy of a large stone, and it is suggested that these patients are treated with a safer procedure.

#### Keywords:

Extracorporeal shock wave lithotripsy , alanine aminopeptidase , N-acetyl-glucosa-minidase , urinary enzymes

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