



RE: Renal protective effect of *N*-acetylcysteine with stepwise ramping voltage against extracorporeal shock wave lithotripsy-induced renal injury: a prospective randomized trial from Desoky et al

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Editor,

We read with great interest the article from Desoky et al. [1]. Authors investigated the possible role of *N*-acetylcysteine (NAC) as a reno-protective agent in patients elected to ESWL. NAC is recognized as a potent scavenger of reactive oxygen species that improves endothelium-dependent vasodilation; as an antioxidant agent, in animal models NAC significantly reduces kidney damage. In the clinical practice, NAC is widely applied to prevent the toxic acute renal failure from contrast dye [2]; however, the optimal drug dose and route of administration still remain controversial.

The possible nephron-protective role of NAC has been successfully used by Desoky et al. [1] to prevent tissue alteration and injury following ESWL: in this setting, NAC administration before and after the treatment resulted in unimpaired levels of urinary proteins and enzymes representative of glomerular and tubular damage (albumin, NAG and NGAL), especially if accompanied by a stepwise ramping strategy of ESWL.

Interestingly, more than a decade ago, our group addressed the issue of kidney protection with the use of inosine injection before ESWL [3]; through an experimental study, we found an unimpaired NAG and LDH urinary concentrations after ESWL in rats previously treated with inosine. Unfortunately, at that time, the limited availability of inosine avoided further researches on application in the clinical practice. In such a view, Desoky and co-workers should be commended for the proposal of a simple, easy and widely available agent to enhance the safety of ESWL.

Actually, the absence of anesthesia and the minimal invasiveness [4, 5] makes ESWL an option suitable for different

kind of stone formers, including pediatrics [6] and elderly [7], and patients with special conditions such as solitary [8] or transplanted kidney [9]. In this view, the implementation of strategies—either technical or pharmacologic—to improve the protection of kidney tissue is advisable and worth of future researches.

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