

Ethacrynic Acid as Potential Drug for Diuretic Renography in Instance of Sulfonamide Allergy

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Abstract: Furosemide is a sulfonamide derivative loop diuretic routinely used in the scintigraphic evaluation of obstructive uropathy. However, in the clinical context of severe allergy to sulfonamide antibiotics, it is prudent to avoid any potentially harmful cross-reaction with furosemide in renography. The authors present a case of alternative use of ethacrynic acid, a loop diuretic without sulfa moiety, which provides adequate and useful results in the assessment of the uretero-pelvic junction syndrome.

Key Words: sulfonamide, allergy, furosemide, ethacrynic acid, renography, diuresis

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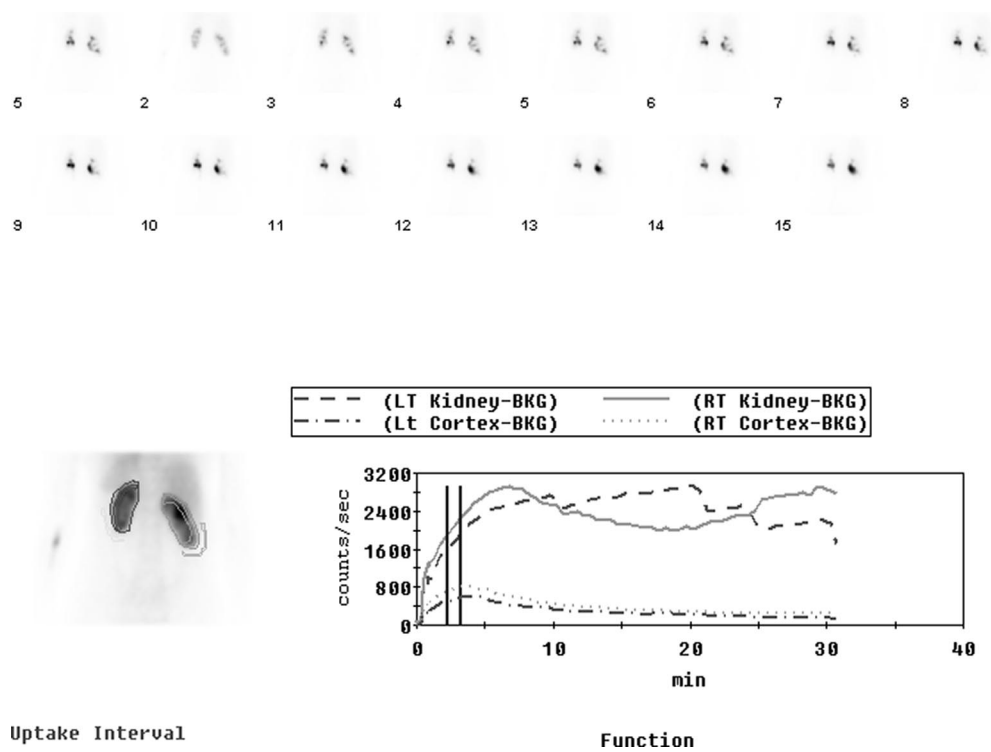


FIGURE 1. A 54-year-old woman, with a history of right ureteroplasty at a young age for congenital malformation, presented with abdominal symptoms and CT features suspicious for recurrent a uretero-pelvic junction syndrome. Her clinical history was also remarkable for severe allergy to sulfonamide antibiotics. Renal scintigraphy was obtained with ethacrynic acid substituting furosemide for enhanced diuresis. The first part of the scintigraphic examination (30-minute acquisition with 2-minute image sequences and curve display) showed retention of tracer within both renal pelves, most prominent on the right side.

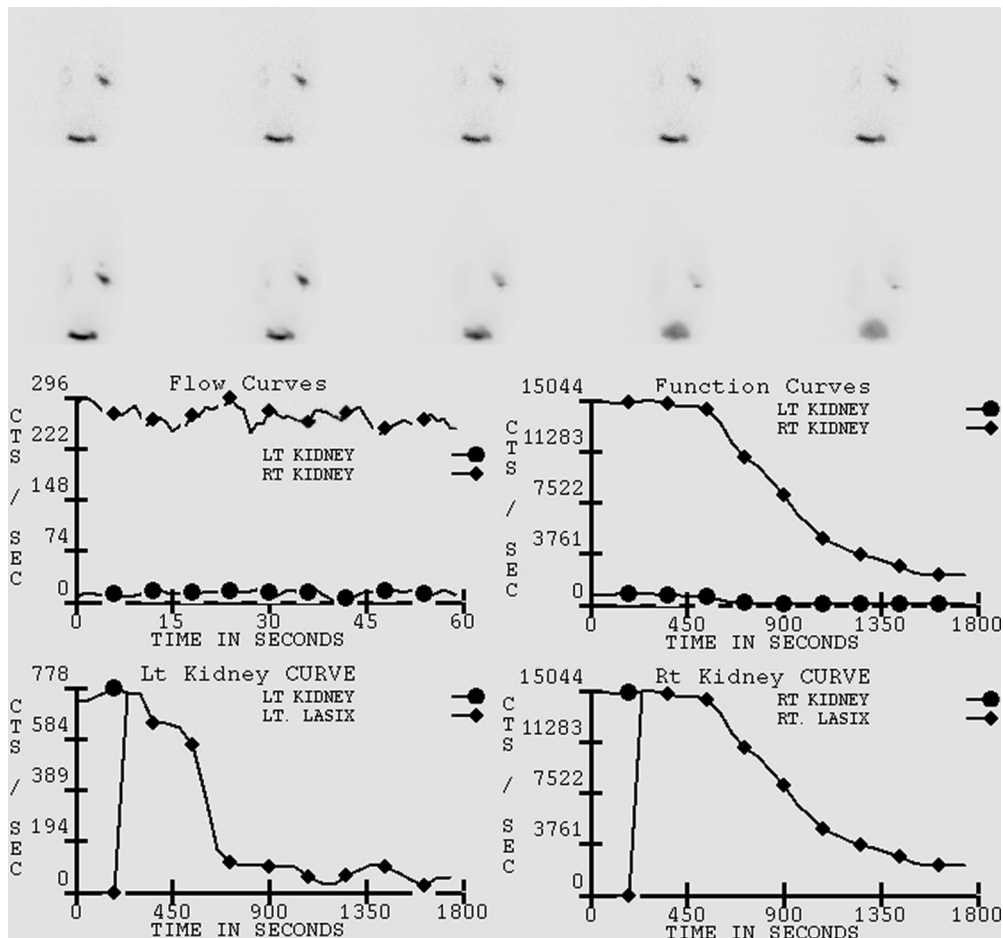


FIGURE 2. After the intravenous administration of ethacrynic acid (25 mg in 20 minutes), the diuretic renography (30-minute acquisition with 3-minute image sequences and curve display) showed satisfactory emptying of both pyelocalyceal structures ruling out obstruction. Sulfonamides are very common antibiotics in clinical practice. Adverse reactions to these antibiotics may be severe and lethal. Cross-reactivity is rare but possible with other drugs containing a sulfa moiety such as loop diuretics used in the treatment of heart failure, edema, and cirrhosis.¹⁻⁵ The reported allergy rate to sulfonamide nonantibiotics is 9.9% for a large series of patients with hypersensitivity to sulfonamide antibiotics.⁵ Ethacrynic acid had not been explicitly mentioned on any protocol for diuretic renography probably due to the potential side-effects of this highly effective drug, which includes excessive volume depletion, metabolic alkalosis, and ototoxicity.⁶⁻⁹ Our case presentation shows that this loop diuretic may be of potential safety benefit for renal scintigraphy in instances of severe allergy to sulfonamides.⁹⁻¹¹ In-depth dynamic/kinetic evaluation in a large controlled cohort of patients is necessary to validate the more routine use of ethacrynic acid in diuretic renography.