Treatment of Chronic Pyelonephritis with Urovalidin

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(Received April 6, 1972)

Results of the treatment with Urovalidin in 55 patients suffering from chronic pyelonephritis are reported. In 34 of the patients the renal function was compensated, in 10 there was initial renal failure and in 11 the renal failure was moderately severe. Urovalidin was administered at a dosage of 4 tablets per day in courses of 12—16 days. Generally, it was well tolerated by the patients. The results of the treatment were recorded on the second or third day (early results), and after 2—3 weeks (late results). Urovalidin seems to be a good therapeutic agent for the suppression of exacerbations in chronic pyelonephritis, against the possible super- or reinfection. The late results are, however, less satisfactory. Owing to its good tolerance, Urovalidin is a suitable preparation for alternating or long-term treatment.

Despite the considerable progress achieved in the last years, numerous problems about the treatment of pyelonephritis still remain unsatisfactorily solved. The causes of failure in this field are rooted in some peculiarities of the infectious process and its localization, on the one hand, and in the biology of the causative agents, on the other. In pyelonephritis, the infection is localized mainly in the renal interstitium, on account of which the access for adequate action of the antibacterial agents is difficult. One of the principal handicaps in the therapy of pyelonephritis is due to the peculiar correlations of microorganism-therapeutic agent, brought forth by the treatment itself. Very frequently, during treatment, the microorganisms grow resistant to the therapeutic agent used as well as to similar agents. In many cases, the causative microorganisms are able to transform into S-forms, the protoplasts, which can restore their initial biological species after discontinuation of treatment. Of no less importance is also the destruction of the susceptible microbial species and the filling of the vacuum thus created by new ones. The altered correlation of microorganism-organism, due to treatment with modern antibacterial agents, is one of the main causes, determining the aptitude of pyelonephritis to a chronic recurrent course and to superinfections [5, 8, etc.].

In order to surmount the shadowy sides of the modern treatment of pyelonephritis, frequent changes of the antiinfectious agents, use of drug combinations, etc., are being suggested. An odd biological “racing” exists between the microorganisms and the pharmaceutical industry in this field. Every new antiinfectious agent displays a good initial effect, which gradually becomes exhausted later.
Estimated from such point of view, one could hardly speak of some universal therapeutic agent which could be effective in all cases and phases of pyelonephritis. Every new preparation has to be welcomed with optimism as to the management of the different attacks, respectively exacerbations of the diseases, and with pessimism as to the long-term results of the treatment.

Great difficulties are encountered when an objective appraisal of the effectiveness of pyelonephritis therapy should be made. The criteria pointed out — disappearance of leucocyturia and bacteriuria, improvement in the patients' conditions, etc., — are indices for a therapeutical effect on the exacerbation of the diseases but hardly could be used as an indication for a definitive recovery [6, 9, 10, 13, etc.]. In such cases, a long-term follow-up, often lasting for several years, is being recommended, involving all of the more important clinical and laboratory parameters ([15] and others).

In the period 1968—69, thanks to the courtesy of the firm Bracco, Milano, we had the opportunity to carry out a clinical trial in the treatment of chronic pyelonephritis with the preparation Urovalidin. Urovalidin is a combined preparation containing 0.30 g of Terizidone and 0.05 g of an azo dye. Terizidone is a derivative of cycloserine; besides being a tuberculostatic, it displays a broad spectrum antibiotic activity against most of the known causative agents of pyelonephritis — E. coli, Proteus sp., Enterococcus, Staphylococcus, etc. [1, 2, 7]. The oral and parenteral administration leads to a rapid optimal concentration in the blood serum and in the tissues. The drug is eliminated by glomerular filtration unchanged in the urine [2, 4]. The concentration in the blood serum, tissues and urine is maintained at a high level for a long period of time [3, 16, 17]. The toxic effect of Terizidone upon the central nervous system is much weaker than that of cycloserine (...). The azo dye, known in the past as the preparation Pyridium, besides exerting analgetic and antibacterial effects, relieves smooth muscle spasms and induces hypotension and hypokinesis of the pelvis and ureters, thus potentiating the effect of Terizidone.

Material and method

Treatment with Urovalidin was carried out in 55 randomly selected patients with primary chronic pyelonephritis. Of them, 16 were males and 39 females, aged between 35 and 45 years. As to the severity of the disease, the renal function was compensated in 34 patients, an initial renal failure was present in 10 patients, and 11 patients had a marked, though not severe renal failure. The diagnosis of the disease was established by complex of clinical, laboratory and technical methods emphasis being put upon the study of leucocyturia according to Merker–Kerp, Addis, staining of Malbin–Sternheimer, provocation tests (with prednisone, etc), and of bacteriuria, quantitative and qualitative. The microorganisms isolated from the urine and their susceptibility to the more widely used antibiotics are presented in Table 1.

International Urology and Nephrology 4, 1972