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Development of new drugs or OMICS-diagnostics of treatment failure

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Aim: Identifying the biological trends in formation of treatment efficacy in various kidney diseases. 20-year observation of treatment results in 4 groups: Urinary tract infection - UTI (5643 patients), glomerulonephritis, nephrotic syndrome - NS (464), lupus nephritis - LN (68), and albuminuric patients with CKD (3734) were analyzed. The results presented as an effect on the 3d month from the treatment beginning (1) and 1 year follow-up (2). For each nosology isolated characteristics that determine the effectiveness of therapy in steps 1 and 2 were adjusted. For UTI-microbe antibiotics sensitivity was $87 \pm 4\%$ (1), recovering - $96 \pm 2\%$ (2), total - 82% (RR 1.08 0.98-1.17 95%). NS steroid sensitivity was $49 \pm 7\%$ (1) and the remission $79\% \pm 3$ (2), total - 72% (RR 1.03, 95% 0.97-1.09). In LN - remission was observed in $44 \pm 4\%$ (1) and $68\% \pm 3$ (2), in total 63% (RR 1.28, 95% of 1.11-1.41). In CKD - reduction of albuminuria ascertained at $69 \pm 2\%$ (1) and GFR preservation - $87 \pm 2\%$ (2), a total of 83% (RR 1.08, 95% 0.98-1.17). As a result, depending on the nosology, 3 months efficacy was 96-57% (71 ± 7), 1 year - 91-69% (75 ± 3). The average efficiency of therapy was 74.8%. Thus, the response to therapy in 1 year follow-up was the dominant sign in a ratio of 3:1 to non-response subjects (Mendelian inheritance).

Conclusions: Modern therapy provides cure/remission in 75% of nephrology patients, which corresponds to the dominant inheritance trait population. Failure of treatment in 25% of patients is not due to lack of efficiency, hence population-recessive traits. It seemed that marginal efficiency of existing treatment facilities in general has already been exhausted. Development of new drugs are likely to be ineffective without seeking genetic mechanisms/markers leading to the development of renal process itself, rather than improve the sensitivity to the drug. In our opinion, OMICS-diagnostics detect a marker(s), allowing understanding why a given individual has developed kidney disease, will be crucial in the treatment of nephrology patients.

Biography

Dmytro D Ivanov, 1964, MD, PhD is Professor in Nephrology, Chief of Nephrology and RRT Shupyk National Medical Academy of Post-graduate Education, Kiev, Ukraine. He has 26 years' experience in nephrology and pediatric nephrology. He has published more than 400 papers, 15 text- books, ERA-EDTA member since 1997.

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