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Editorial

Urolithiasis – A Continuing Problem

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In 1979 a first special issue on urolithiasis was presented to underline the importance of this multifactorial disease and to report current efforts in stone research. Since then, research into stone disease has continued world-wide. Fruitful communication and cooperation have become common. In spite of that there remain still many unresolved problems and it is hoped that the contributions in this issue will give some answers and some helpful speculations.

To demonstrate the socio-economic importance of urolithiasis valid epidemiological studies are necessary. With respect to the problems of hospital statistics, general practice surveys or selected group surveys some circumscribed population surveys have been done. These studies need a considerable amount of time, effort and expenditure. Maybe for the future, however, it would be more helpful to conduct, in cooperation with a specialised institution, nationwide studies. This approach is preferable since it makes available data about different epidemiological questions and enables the situation in different countries to be compared.

Under pathogenic aspects, special interest is directed to the factors involved in crystallisation (supersaturation, nucleation, crystal growth, aggregation, phase transformation), the processes of crystal dissolution and disaggregation, the site and mechanisms of crystal retention in the urinary tract, the role of matrix, and the role of crystallisation inhibitors in calculus formation.

In connection with this a precise qualitative and quantitative stone analysis, if possible with a multiple technique approach, gives pathogenic information as well as a solid basis for decisions on treatment.

With respect to the important role of supersaturation it is necessary to study intensively all disorders influencing the excretion and concentration of lithogenic and inhibitory substances in urine. That requires valid methods of detection for determination of the different substances and to measure excretion and concentration.

Lastly, but of great interest to the patient, are new ideas and developments for treatment. There are very interesting new approaches for stone removal such as percutaneous nephrolithotomy or lithotrypsy following the application of external shock waves. However, because of the high recurrence rate in patients who do not receive adequate prophylactic treatment, also in the future it will be necessary to look for effective drugs with fewer side effects.

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