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Preface

Nephrolithiasis



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Guest Editor

Much progress has been made since the last major publication of a text on nephrolithiasis. There is increased recognition that many of the recognized risk factors for kidney stone formation originate from various endocrine-metabolic disturbances and from environmental–nutritional aberrations.

Moreover, the cellular-molecular basis for key risk factors is being elucidated. Laboratory methods for risk assessment have become more accessible. Despite continuing advances in non-invasive techniques for removal of stones, the need for medical diagnosis and prevention remains.

The above circumstances led to the decision to devote an issue of *Endocrinology and Metabolism Clinics of North America* to nephrolithiasis. Leading authorities actively engaged in stone research from the United States and abroad, comprised of basic scientists, internists and urologists, were asked to contribute 13 articles. The first article provides an overview of the physicochemistry of stone formation, and the last chapter reviews the surgical approach. These articles were prepared for the general readership of this publication, giving enough detail to provide an adequate preparation for understanding remaining articles, but not to cause confusion. Because the principal focus is on endocrine and metabolic aspects of stone disease, the remaining 11 articles consider medical aspects of stone disease.

The main emphasis is on pathophysiology of calcareous stones, associated with hypercalciuria, hypocitraturia, hyperuricosuria, and hyperoxaluria, as well as idiopathic uric acid nephrolithiasis (gouty diathesis), other noncalcareous calculi, stones from bowel disease, and childhood stones (articles 2 to 9). One of the exciting challenges in the stone field today is

to integrate the recent progress in cellular-molecular elucidation with physiologic and metabolic disturbances. Thus, the authors were encouraged to update key advances in cellular and molecular biology and to speculate about their clinical implications.

An entire article has been devoted to nutritional aspects of stone disease. The importance of nutritional influences on stone formation has long been recognized. Dietary factors can modify the expression of metabolic factors, or cause stones by themselves. This area has received renewed interest because of recent studies concerning the value of restricting dietary calcium and animal proteins. Finally, two articles were allocated to medical diagnosis and pharmacologic treatment. The article on diagnosis describes protocols for a detailed work-up, as well as a simplified approach adaptable to the setting of a private practitioner. The article on treatment reviewed drugs that are available for the prevention of recurrent nephrolithiasis, describing their mechanism of action, indications, potential side effects, and results of randomized and non-randomized trials.

As with any rapidly emerging field, diversity of opinion is inevitable. Authors were given freedom to express their own beliefs and practices. Thus, the same topics were sometimes treated in different articles, with varying interpretation. Authors were asked to provide sufficient detail so that the readers could make an intelligent distinction themselves. In order to avoid potential for conflict of interest, all references to trade names of drugs or methods are deleted.

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