

Diagnostic and research outcomes from a medical kidney stone clinic

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Introduction

In a large teaching hospital kidney service, 1027 patients were seen by the urology stone clinic from October 2018 to September 2019 (589 new, 438 follow up). Kidney stones are a chronic illness with a high recurrence rate (35-50% in 5 years and 75% in 20 years) hence diagnosis and treatment to reduce kidney stone formation is worthwhile [1].

We analysed the outcomes of referrals to our medical stone clinic. The aim was to evaluate diagnostic rate, stone formation rate and recruitment into clinical trials.

Methods

We retrospectively analysed all adult patients who attended our dedicated medical kidney stone clinic at a large teaching hospital from October 2018 to September 2019 (total number of patients: 136).

Results

- Referrals came from 12 locations (hospitals/primary care). Main source of referral was urology (63%); other referrals were from nephrologists (12%) and paediatrics (8%). Our own hospital's urology department had a referral rate for metabolic evaluation of 4% (36/1027).
- Of all patients, 34% had a family history of kidney stones, 23% were overweight or obese, 14% were smokers, 14% were diabetic (type 2), 12% had recurrent UTIs and 4% had malabsorption secondary to inflammatory bowel disease or bowel surgery.
- Of all patients, 29% (40/136) already had a diagnosis previously confirmed on genetics or biochemistry. Of these, 40% (16/40) had cystinuria.
- A new defined diagnosis, confirmed on genetics or biochemistry, was made in 13% (18/136) of patients.
- In the follow up group, 39% (41/105) of patients had at least one further episode of stone disease during this time period. This subgroup of stone formers had an average rate of 0.42 stones per patient per year (calculated from first recorded clinic visit to their last visit during the audited period).
- DEXA bone densitometry was obtained in 41% (43/105) of patients. In this group, results were normal in 42% (18/43), osteopenia in 44% (19/43) and osteoporosis in 14% (6/43).
- 23% of all clinic patients were recruited into or already in RaDaR (National Registry of Rare Kidney Diseases), 19% of patients were recruited into or already in the 100,000 Genome Project, and a smaller number were recruited into interventional trials.

Discussion

We made a new actionable diagnosis in 13% of this population of recurrent or rare stone formers, yet only 4% of the hospital's urology patients were referred for metabolic evaluation. This confirms the usefulness of this clinic and justifies the establishment of referral pathways, perhaps based on recent NICE guidance. Bone disease is a major, but often undiagnosed, feature of patients with renal stone disease. This is in keeping with previous findings and is often overlooked in renal clinics.

Our clinic is a resource for patients and for recruitment into clinical trials. Nearly a quarter of patients participated in research in some way.

Reference

[1] Kidney Stone Disease: An Update on Current Concepts. Alelign T, Petros B. *Adv Urol*. 2018 Feb 4;2018:3068365. doi: 10.1155/2018/3068365. eCollection 2018. Review. PMID: 29515627