

**Predictive patterns for urological abscondee among patients with renal stone disease –
Barbados Urological Disease Studies**
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ABSTRACT

Objective: To investigate the possible characteristics and patterns in the types of individuals who are likely to abscond from the urology clinic and the implications of these on the eventual outcome of the patient.

Methods: Patients scheduled to be seen in urology clinic between the periods of January 2013 and June 2014 were logged into a database and followed up prospectively. Abscondee in this survey were defined as those patients who missed at least two clinic appointments without a valid explanation and/or those who simply could not be contacted for at least two weeks following the missed appointment. Demographics of patients were collected together with the mode of re-presentation, eventual outcome and reason for absconding.

Results: A total of 1,207 patients records were interrogated. 17 patients were identified as abscondee. The combination of young male, renal calculus disease and absence of symptoms during time of absconding was present in approximately 82% of patients. Those citing no pain as a reason accounted for 16 patients [94%]. 100% of abscondee stated that they would have attended clinic if they had known the dangers of absconding.

Conclusion: In urology patients, the risk of serious illness is significant in those who are lost to follow-up. Abscondee in this study were young males with stone disease. The perceived "benign" nature of the disease and the absence of renal colic gives the false impression that missing the appointment is unlikely to be detrimental. A greater emphasis patient education at first consultation is needed.

Keywords: Appointments and schedules, kidney calculi, urology

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INTRODUCTION

Absconding from the urology follow-up clinic can often have undesirable consequences. We begin by presenting two specific cases reports where absconding from clinics led to unfavorable outcomes. We then present the results of a patient survey undertaken at our unit which explores patterns in absconding and re-presentation at clinics.

We emphasize that all patients who have untreated stone disease should be trackable and should be thoroughly briefed about the consequences of absconding, including the implications of renal failure and potential loss of life.

Methods

Patients scheduled to be seen in urology clinic between the periods of January 2013 and June 2014 were logged into a database and followed up prospectively over a maximum 22 month period. Patients who missed at least two stone clinic appointments without a valid explanation and/or those who simply could not be contacted for at least 2 weeks following the missed appointment were labeled as abscondees in this survey. Upon re-presentation, each patient was asked to complete a questionnaire and interview with a urologist.

Results

Case 1

A 33 year old man with bilateral staghorn calculi and good renal function as evidenced by an isotope renogram had percutaneous nephrolithotomy [PCNL] performed on his right kidney and bilateral JJ-stents inserted as the first part of a multistage procedure. He was discharged from hospital with an appointment after an uneventful postoperative recovery. He subsequently failed to attend clinic and disappeared from follow-up.

The patient presented to the accident and emergency department 16 months later with fever, chills, rigors and left flank pain. He had a urea of 12mmol/L and creatinine of 233 μ mol/L. A kidneys, ureters and bladder radiograph [KUB] showed residual right renal calculi with absence of stent on that side and a completely calcified left ureteric stent with its accompanying renal calculus. He was admitted with a diagnosis of urosepsis. He stated that several months prior to presenting, he had pulled a plastic tube out of his penis [the right stent] but did not seek attention. On admission, he was treated with appropriate antibiotics and an isotope renogram showed a non-functioning left kidney and moderate function in the right kidney. He subsequently had a left nephroureterectomy and an extra corporeal shock wave lithotripsy [ESWL] for the residual right renal calculi.

Case 2

A 27 year old male was initially referred to the urologist with a history of right renal colic by his general practitioner and was subsequently noted to have a 1.2cm non-opaque right renal calculus following an intravenous urogram [IVU]. He was given an appointment but failed to attend despite several reminders both by telephone and by letters.

He presented to the accident and emergency department 11 months later with severe right renal colic and was septic. An urgent IVU showed a ruptured renal fornix with extravasation of contrast. A temporary ureteric catheter was inserted following initial treatment of his urosepsis, followed by removal of the calculus.

Questionnaire results

A total of 1,207 patients records were interrogated. There were 17 abscondee as defined using the above criteria. Data was analyzed in this group for the following parameters: age, sex, co-morbid disease, occupation, preliminary referral diagnosis, period of absconding

clinic, diagnosis at time of re-presentation and outcomes [See Tables 1 and 2].

Of the 17 abscondees, 15 [88.2%] were male and 2 [11.8%] were female. The median age of patients was 26 years overall [male range 16-88 years; female range 44-68 years; overall mean age 28.6 years]. With regard to co-morbid disease, 2 of the 17 patients [11.8%] were affected, both of whom were female; one had hypertension and the other type 2 diabetes mellitus. No patients had a history of psychiatric illness. In relation to occupation, 7 patients [41.2%] were employed and 10 [58.8%] were unemployed.

The preliminary referral diagnosis of the patients included renal stone disease [15 patients; 88.2%] and non-stone disease [2 patients; 11.8%]; of these, 1 patient [5.9%] had recurrent urinary tract infection and one patient suffered from sub-fertility. The mean period of absconding clinic was 10.2 months [range 7-16 months].

Diagnosis at the time of re-presentation was noted. Urosepsis was the re-presenting emergency diagnosis in 7 patients [41.2%]. 3 [17.6%] had urosepsis with a blocked kidney. One patient [5.9%] had urosepsis without calculus, one had urosepsis with calcified stent, one had urosepsis with a ruptured renal fornix and one had urosepsis secondary to xanthogranuloma pyelonephritis. Renal colic was the re-presenting complaint in 8 patients [47.1%]. The majority [15; 88.2%] re-presented as an emergency admission whereas only 2 [11.8%] were non-emergency admissions. Three patients [17.6%] had emergency nephrostomies, one [5.9%] had a ureteric catheter insertion prior to pyelolithotomy and JJ-stenting. Another patient required an urgent nephroureterectomy.

On interrogation of the entire 1,207 patient notes, 97 patients presented over the 22-month period with urological emergencies, of which 15 [15.5%] were abscondees. Despite 88.2% of the 17 abscondee patients presenting as emergencies and 41.2% presenting with severe

urosepsis, there were no deaths or intensive care unit admissions in this group.

The exact reason for absconding clinic appointment has been extensively studied in almost all subspecialties of the medical field. In this study, the patients who failed to attend were interviewed with regard to the reasons for absconding. The questions included transportation problems, waiting times, not knowing the reason for attending, forgetting to attend or to cancel, no reason, clerical errors, felt better, no pain, fearful of being seen by a junior doctor, inpatient in another hospital, not in island, fear of serious diagnosis or surgery, and not knowing the potential seriousness of absconding. The results were unexpected in that almost all patients cited absence of symptoms and feeling better, together with not knowing the potential seriousness of absconding, as the main reason for non-attendance. In total, 16 [94.1%] cited no pain as the reason, whilst one patient [5.9%] with cancer cited fear of sub-fertility as their reason. In the group with no pain, all except one patient had renal calculi. When the 17 patients were asked why they failed to call and cancel the appointment they all cited fear of being reprimanded or upsetting the medical team.

The combination of young male, renal calculus disease and absence of symptoms during the time of absconding was present in approximately 82% of the patients overall. These factors may be predictive of potential abscondee.

Discussion

Outpatient appointments that are not kept are a drain on resources and often lead to undesirable consequences for the patients in terms of morbidity and occasionally mortality. In a prospective study by Murdock *et al* (1), non-attenders were asked at a gastroenterology clinic why they had missed their appointment. A substantial number of patients claimed to have forgotten their appointment or to cancel it. Other explanations for non-attendance

included no reason [26%]; clerical errors [10%]; felt better [8%]; fearful of being seen by a junior doctor [3%]; and inpatient in another hospital [3%]. This represents the typical findings in many studies. Pesata *et al* (2) showed that in the pediatric clinic, families identified transportation problems, wait times, and not knowing the reason for the appointment as barriers. Kruse *et al* (3) found that in the psychiatric clinic, the predictors of non-attendance were being younger, having a poor family support system, not taking psychotropic medications and not having health insurance. Killaspy *et al* (4), in a prospective cohort study of randomly selected attenders and non-attenders at general adult psychiatric out-patient clinics, found that those who miss psychiatric follow-up out-patient appointments are more unwell and have poorer social function than those who attend. Hence we can see that individual specialties have unique factors that influence non-attendance rates. By identifying and predicting those factors unique to abscondee in our urology clinic, we hope to reduce the morbidity and resource drain associated with repeat non-attendance.

Previous studies have looked at various factors that can be used to improve attendance. Mail, telephone and combined reminder systems have been cited as being effective by several studies. However, Hixon *et al* (5) found that in a national survey analyzing the awareness of family practice residency clinics in USA, even with the widely reported use of reminder systems, one third of programs continue to have no-show rates above 20%. In addition, when comparing clinics with high [$>20\%$] and low [$<20\%$] no-show rates, there was no statistically significant difference between the use or non-use of mail, telephone or combined reminder systems.

Murdock *et al* (1) in his study on gastroenterology patients concluded that no strategy to improve attendance is likely to have a great impact and that since the non-attendance rate is reasonably constant, it can be taken into account when patients are booked.

In our study we found that abscondee from urology clinic were predominantly young, male and had renal calculi. The use of mail, telephone or combined reminder systems made no difference to their attendance. The main factor for not attending was the absence of pain and the perception that there was no harm with absconding. Counseling at first visit about the potential dangers of absconding with calculus disease is essential and may have averted some of the non-attendance. An alarming percentage of patients were admitted as emergencies with renal colic with or without urosepsis. Two [11.8%] of these patients had life-threatening urosepsis. Two patients had nephrectomies that may have been avoided.

It seems prudent that all patients who attend urology clinic be specifically told and made to understand about the sequelae and modes of untreated calculus disease prior to discharge. This must be specifically emphasized in young male patients.

Further large scale studies are necessary to gather greater insight into abscondee of the urology clinic. From our experience, it seems that communication and patient education at first visit – both at general practitioner level and at the urology clinic level – are the single most important factors in reducing missed appointment rates in urological patients.

Conclusion

From our study we conclude that young men with asymptomatic stone disease have the greatest tendency to abscond from urology clinic. The majority of patients who abscond represent as an emergency. The pain-free period frequently associated with untreated stone disease on waiting lists for surgery often gives a false sense of security with undesirable consequences, as shown in this study.

We propose that patient education about the dangers of absconding, implications of renal failure and the potential loss of life, should be mandatory and must be an important facet of the initial clinic visit and reinforced with each subsequent visit.

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Predictive Patterns for Urological Abscondees

Table 1: Summary of abscondee demographics and modes of presentation

Sex	Age	Occupation	Diagnosis	Period of absconding (months)	Diagnosis at time of re-presentation	Outcome	Emergency admission (E)	Reason for absconding
M	19	Unemployed	Renal stone disease	10	Urosepsis with blocked kidney	Nephrostomy	E	No pain
M	23	Unemployed	Renal stone disease	8	Renal colic	Extracorporeal Shock Wave Lithotripsy	E	No pain
M	26	Unemployed	Renal stone disease	8	Renal colic	Electrohydraulic Intraporeal Lithotripsy	E	No pain
M	33	Unemployed	Renal stone disease	16	Urosepsis – calcified stent	Nephroureterectomy	E	No pain
M	27	Joiner	Renal stone disease	11	Urosepsis – ruptured renal fornix	Ureteric catheter followed by pyelolithotomy and stenting	E	No pain
M	22	Unemployed	Renal stone disease	9	Contacted by relatives for clinic follow-up – spontaneously passed stone	Follow-up IVP	-	No pain
M	24	Unemployed	Renal stone disease	7	Renal colic	Spontaneously passed stone	E	No pain
M	19	Student	Renal stone disease	7	Renal colic	Basket extraction	E	No pain
M	21	Mechanic	Renal stone disease	10	Urosepsis – blocked infected kidney	Nephrostomy	E	No pain
F	54	Maid	Renal stone disease	11	Urosepsis – xantho-granuloma pyelonephritis	Nephrectomy	E	No pain
M	19	Unemployed	Renal stone disease	14	Renal colic	Electrohydraulic Intraporeal Lithotripsy	E	No pain
M	22	Gardener	Renal stone disease	12	Renal colic	Spontaneously passed stone	E	No pain
M	35	Unemployed	Sub-fertility	15	Contacted by relatives for clinic follow-up	Testicular biopsy	-	Scared of serious diagnosis
M	32	Plumber	Renal stone disease	12	Urosepsis – blocked infected kidney	Nephrostomy	E	No pain

F	53	Unemployed	Recurrent UTI	8	Urosepsis	Antibiotics	E	No pain
M	28	Unemployed	Renal stone disease	7	Renal colic	Spontaneously passed stone	E	No pain
M	30	Taxi driver	Renal stone disease	8	Renal colic	Basket extraction	E	No pain

Table 2: Modes of presentation by percentage

Mode of presentation	<i>n</i> (%)
Renal colic	8/17 (47.1%)
Urosepsis	7/17 (41.2%)
Urosepsis without calculus	1/17 (5.9%)
Urosepsis with blocked kidney	3/17 (17.6%)
Urosepsis - calcified stent	1/17 (5.9%)
Urosepsis - ruptured renal fornix	1/17 (5.9%)
Urosepsis - xanthogranuloma pyelonephritis	1/17 (5.9%)
Contacted by relatives	2/17 (11.8%)