



RELATIONSHIP BETWEEN TIME OF ONSET AND THE SIDE IN URETERIC COLIC

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ABSTRACT

Background: Ureteric calculi are a commonly encountered clinical problem with a life time risk of 2-5% in Asian population. Fifty percent of patients have a recurrence of renal colic within 5 years of the first episode. **Methodology:** This was a descriptive study conducted among patients, who presented with ureteric colic to Teaching Hospital Peradeniya. An interviewer based questioner was filled and patients underwent radiological investigations to determine the side of urolithiasis. Purpose of this study was to assess time of onset of ureteric colic and the side of the stone. **Results:** In the study sample 29.6% had no demonstrable stone. 43% had in right side. 27.1% had in left side and 0.3% had bi-lateral ureteric colic. 44.1% of patients had the onset in the morning. 22.8% had the onset in the afternoon. 33.1% had the onset at night. Subjects who had stones in right side, 42.1% in the morning, 23.5% in the afternoon and 34.4% at night had the onset of ureteric colic. Subjects who had stones in left side, 47.4% in the morning, 19.2% in the afternoon and 33.4% at night had the onset of ureteric colic. **Conclusions:** Right side colic is more common than that of left side. Onset of pain (ureteric colic) was commonly in the morning and it is independent of the side and gender.

KEYWORDS: Ureteric colic, time of onset, side, gender.

INTRODUCTION

Ureteric colic is a commonly encountered clinical problem in urology practice. Urolithiasis affects up to 2-5% of the Asian population^[1] and up to 15% of the population in western countries.^[2] Urinary stone occur as a result of various metabolic, environmental and nutritional conditions, and are most commonly composed of calcium oxalate, with the precipitation of other calcium salts, uric acid, struvite or other compounds. Of all types of urinary stones, ureteric stones account for 20%, and almost 70% of these are distal ureteric stones.^[3] Fifty percent of patients have a recurrence of ureteric colic within 5 years of the first episode.^[3] Radiological investigations play an important role in evaluating these patients. Urolithiasis is a recurrent disease with substantial economic consequences and great public health importance.

The objective of the current study was to determine the time of onset of ureteric colic and the side of the stone and the gender.

MATERIALS AND METHODS

Methodology

This was a retrospective descriptive study conducted during 01-may-2015 to 13-June-2016 all patients who presented with a history of ureteric colic to surgical ward

teaching hospital Peradeniya. An interviewer based questionnaire was filled regarding patients' socio demographic data and the characteristics of the ureteric colic. All the Patients underwent radiological investigations to confirm the presence of a stone and to determine the site and size.

RESULTS AND DISCUSSION

There were 314 patients who were between 18 year to 84 years with a mean age of 41.1 +/- 12.08 years. There were 70.6% of males and 29.4% of females. In the study population 29.6% had no demonstrable stone. 70.4% had a demonstrable stone according to radiological investigations, out of them 61.1% had it in right side while 38.5% had in left side and 0.4% had bi-lateral stones. 44.1% of patients had the onset of the colic in the morning. 22.8% had the onset in the afternoon. 33.1% had onset at night.

Subjects who had stones in right side, 42.1% in the morning, 23.5% in the afternoon and 34.4% at night had the onset of pain ureteric colic. Subjects who had stones in left side, 47.4% in the morning, 19.2% in the afternoon and 33.4% at night had the onset of ureteric colic.

The hypothesized mechanism for higher temperatures causing stone disease is attributed to heat-induced sweating, leading to reduced urine volume and increased urinary concentrations. When urinary concentration exceeds its solubility, the super saturation state allows the crystal to nucleate and grow, promoting stone formation. Negative correlation and inverse linear regression in humidity and renal colic the hypothesis supporting dry climate increases urinary stone formation is mainly depending on dehydration. Lower humidity in summer months in our study (72% in July compared to 78.8% in February) enhances dehydration and increases the chance of stone formation slightly. Previous study reported that falling barometric pressure was associated with higher incidence of ureteric colic.^[4] Another study presented negative correlations between atmospheric pressure and monthly colic attacks.^[5] This trend can be explained by dehydration in the low atmospheric pressure environment, as frequently observed in the high-altitude mountainous area.^[6] The insensible skin water loss is inversely dependent on barometric pressure in their small pilot study.^[1]

Renal colic visits were 16% more likely in warmer than in colder months in a retrospective study, and that this effect was greater in older and in male patients.^[7] According to the literature, there is an association between the onset of symptoms and exposure to hot and dry weather, particularly for temperatures above 27°C and humidity below 45%.^[8] A study has been done on the incidence of renal colic in relation to temperature, humidity, atmospheric pressure, and fasting status during Ramadan in a Saudi Arabian population. A strong correlation was observed between colic episodes and both temperature and atmospheric pressure, whereas no significant correlation was observed with regard to humidity and Ramadan fasting. On a weekly basis, the peak was recorded on Monday, with a nadir on Sunday.^[9] According to the time of the day, the peak was observed between 8 and 10 a.m., with a second minor peak between 7 and 10 p.m., and the nadir between 1 and 3 a.m. A strong positive linear correlation was observed between the number of colic cases and daily temperature.^[2] Our study results also prove the explanation of above literatures.

CONCLUSIONS

Right side colic is more common than that of left side. Onset of pain (ureteric colic) was commonly in the morning and it is independent of the side and gender. People fasting at night and they undergo relative poor hydration leads to concentrated urine. That may be the reason for highest percentage at early part of the day.

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