

# Occurrence of Spinal Masqueraders in a Urolithiasis Clinical Context

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## ABSTRACT

**Objective:** The purpose of this study is to provide the occurrence of urolithiasis that closely mimicked the somatic nature in the subjective, objective findings and reduction of symptoms with an analgesic. **Methods:** This study was carried out in a genitourology clinic, Teaching Hospital Jaffna, Sri Lanka for a three months period. The socio-demographics, BMI, and clinical presentation of pain were collected. **Results:** This study recruited 84 patients, whose mean age was  $50.5 \pm 15.6$  years and the median was 51 years. There were almost two folds male participants (64.3%) and considering the BMI, overweight was the most significant at 52.3% while obesity and underweight were (9.6%) and (5.3%) respectively remain was ideal. The majority (84.5%) had comorbidities including diabetes, hypertension, and dyslipidemia although many had combined them. The subjective clinical presentation was mostly pain and dysuria although the somatic nature of pain complaint was significantly dominated by lower back pain (56%), flank pain (21.4%), loin to groin pain (10.7%), and uretic colic pain (11.9%) despite the uretic colic pain pattern. **Conclusion:** This can help clinicians to rule out an important aspect of visceral pathologies similar to musculoskeletal clinical presentation to rule in the visceral etiologies that primary symptoms generator.

**Keywords:** Spinal masqueraders, premature diagnostic closure, back pain, urolithiasis, differential diagnosis, clinical decision-making

## INTRODUCTION

Lower back, flank, and groin pain are collective symptoms that often lead a patient to seek medical treatment with a healthcare provider. The majority of clinicians consider it as a mechanical nature of lower back pain. However, a recent research study contends that 5.3% of primary complaints are non-musculoskeletal in origin [1]. Urolithiasis commonly referred to as kidney stones or renal calculi, is a quite common condition in the adult population, with a lifetime prevalence

of 2% to 5% and an approximately 12% lifetime risk [2]. This disorder is 2 to 3 times more common in males and has a 50% recurrence rate [3]. The precise differential diagnosis of clinical presentation between somatic and visceral etiologies represents a challenge for clinicians because the merging mechanisms that cause symptoms can be virtually indistinguishable between somatic and visceral lesions [4]. Urolithiasis is a common condition with symptoms of pain in their loin, flank or lower back region although nephrolithiasis is similar to somatic nature of pain commonly associated with lower back pathologies including degenerative lumbar spine, facet joint and sacroiliac joint syndrome [5]. It is a common condition that typically presents with pain over the affected joint, often with referral into the posterolateral thigh, groin, and scrotum/labia. Therefore, a great number of loin, flank, and lumbar region pain populations are prompting to seek pain management [6]. The purpose of this report is to illustrate the prevalence of visceral pain due to nephrolithiasis that closely mimicked to somatic nature of back pain linked to lumbar spondylosis and sacroiliac joint dysfunction with aging [7]. This research provides a clue to clinicians, who focus on musculoskeletal disorders that they need to be aware of visceral etiologies in the presence of acute somatic pain presentations.

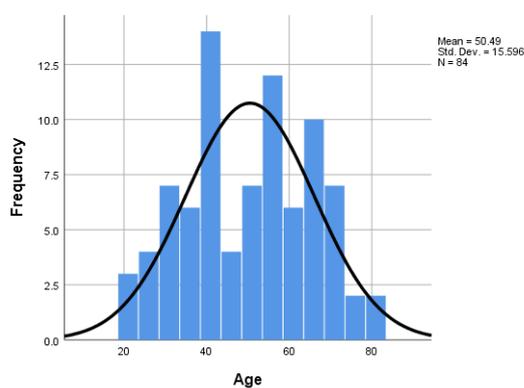
**METHODS AND MATERIALS**

The aim of this study was to evaluate the occurrence of the somatic nature of lower back pain in a genitourology clinic, Teaching Hospital Jaffna, Sri Lanka for a three months period.

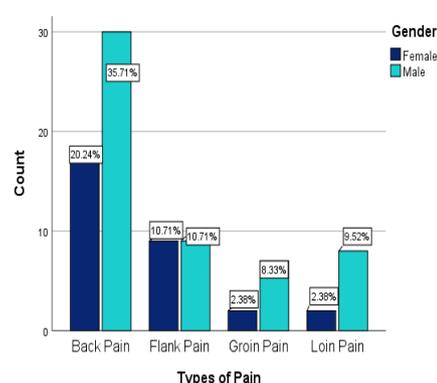
The socio-demographics, BMI, and clinical presentation of pain were collected. In order to achieve the study objectives initially, the descriptive analysis was carried out by using the statistical software SPSS (version 26) in order to have knowledge about the characteristics and distribution of variables, and identify the relationship between two variables. This descriptive analysis was conducted through two steps including univariate and bivariate analysis. The chi-squared test was used to check the relationship between two categorical variables as this study dataset comprises more than 50 observations, where 5% was used as the significance level.

**RESULTS**

This study recruited 84 patients, whose mean age was 50.5 ± 15.6 years and the median was 51 years (Figure: 1). There were almost two folds male participants (64.3%) than the opposite gender. Considering the BMI, overweight was the most significant at 52.3% while obesity and underweight were (9.6%) and (5.3%) respectively, remaining was the ideal BMI. Among the overweight category, both gender males and females had relatively equal proportions. Of the study participants, the majority (84.5%) had comorbidities including diabetes, hypertension, and dyslipidemia however, many had combined the comorbidities (Table: 1). The subjective clinical presentation was mostly pain and dysuria although the somatic nature of pain complaint was significantly dominated by lower back pain (56%), flank pain (21.4%), loin to groin pain (10.7%), and uretic colic pain (11.9%) despite the uretic colic pain pattern (Figure: 2).



**Figure 1:** Histogram of patients' age



**Figure 2:** Type of pain associated with gender

**Table 1:** Comorbidities distribution among the study participation

Comorbidities	No	%
Yes	78	92.9%
No	06	7.1%
DM	32	41.1%
HT	21	26.9%
HL	23	29.5%
BA	02	0.03%
Hypothyrodism	02	0.03%
IHD	04	0.05%

## DISCUSSION

Clinicians ought to be proficient in synthesizing knowledge for effective clinical decision-making. It is a contextual, continuous, and evolving process of data gathering, interpreting, and evaluating in order to opt for an evidence-based treatment approach [8]. Also, these skills are characteristic of advanced practitioners and help to deliver the provision of quality care. The clinical history taking contains a wide-ranging and sequential report of the patient's disease with sufficient information regarding possible etiologies of the patient's primary complaints [9]. Clinical history taking is undoubtedly the most essential component to have a precise differential diagnosis and it helps to reveal underlying debilitating diseases [10]. Moreover, the comprehensive clinical history taking not only points us toward a diagnosis but it gives us a better understanding of the patient as a person and not just as disease outcomes [11]. Regardless of great advances in medical clinical decision-making, premature diagnostic closure based on pattern recognition may delay the potential prognostic clinical outcomes on patients. A study describes a visceral pathology representing the clinical features similar to musculoskeletal disorders, in which case a systematic effective medical history taking can potentially help to rule in the visceral etiologies relevant to the primary symptoms' generator [12]. It leads to making a precise differential diagnosis, subsequently successful prognosis, and avoids premature diagnostic closure in a clinical setting.

Medical history-taking can be defined as a consistent and organized approach to collecting medical information from a patient to support a clinician's assessment, diagnosis, and management in relation to the patient's illness. Efficient clinical history taking is the most important feature in the context of healthcare providers because it plays an important role to identify not only underlying patient biomedical issues but also considering biopsychosocial issues of the patient that include

their lifestyle and demographic history and how they are involved upon their ongoing health condition [15]. In clinical practice, the signs and symptoms with which patients present to clinicians allow the healthcare providers to consider a range of conditions from which a patient might be suffering and to make a considered opinion of what the patient's diagnosis actually is. This approach is called differential diagnosis. In order to make a precise differential diagnosis by addressing specific medical issues clinicians need to focus on effective and efficient clinical history-taking. This helps to formulate the most appropriate therapeutic interventions and positive clinical outcomes for the patients. Stimulating a comprehensive patient history concluded by open-ended questions and listening actively. It offers crucial clues to make the accuracy of differential diagnosis. An aphorism in medicine credited to William Osler is: "Just listen to your patient, who is telling you the diagnosis". In a classic study, researchers evaluated the relative importance of the medical history, the physical exam, and investigation to have a differential diagnosis; this study resulted in precise diagnosis performed in 66 cases out of the 80 patients by only the efficient clinical history taking. The clinical adage that about two-thirds of diagnoses can be made on the basis of effective medical history-taking alone has retained its validity despite the technological advances of the modern hospital. This can help to make potential clinical hypotheses is that it provides more productive, time-efficient benefits to the healthcare systems and also avoid unnecessary expensive clinical investigations [8].

The inclusion of renal calculi is rarely reported in the primary clinical setting because musculoskeletal pain is a primary consideration for these practitioners as the clinical symptoms are often very similar to somatic pain to the back, flank, and groin regions depending on the location of the calculi [13]. Most patients describe the pain as a downward-radiating flank pain that progresses anteriorly into the abdomen, pelvis, and genitals as the calculus travels from the kidneys down

the ureter and into the bladder. In some cases, occlusion of the renal system can follow resulting in nephrolithiasis and eventually kidney failure [14]. Several authors discussed viscerosomatic pain in relation to spinal manipulation and reported a case of nephrolithiasis that closely mimicked a common mechanical lesion in both clinical presentation and response to therapy. Several theories have been put forth in attempts to explain the possible mechanisms by which patients presumed to be suffering from any of a variety of internal organ diseases are occasionally found to respond quickly and dramatically to therapies delivered to purely somatic structures. This study demonstrated that symptom reduction with spinal manipulation does not necessarily indicate that the pain is of somatic origin. Exploration of the potential pain of visceral origin may be necessary in cases of apparent somatic pain even if the symptoms are temporarily relieved with manual therapy [15].

## CONCLUSION

It is factual that clinical history taking is the most essential component to having a precise differential diagnosis and it helps to reveal underlying debilitating diseases. This can help clinicians to rule out an important aspect of visceral pathologies similar to musculoskeletal clinical presentation to rule in the visceral etiologies relevant to the primary symptoms' generator.

## CONFLICT OF INTEREST DECLARATION

There is absolutely no conflict of interest between the authors as everybody is aware of the work and participated adequately.

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## CONTRIBUTORS

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## ETHICAL CLEARANCE

This study was approved by the Ethics Review Committee, Teaching Hospital Jaffna, and the patient's informed written consent was received.

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