



## A Simple Method to Type the Urinary Stones

Sivarangini Sivagnanam

University of Jaffna, Sri Lanka

<https://orcid.org/0000-0003-4458-7715>

Vasanthi Arasaratnam

University of Jaffna, Sri Lanka

Mangala Gunatilake

University of Colombo, Sri Lanka

DOI: <https://doi.org/10.3126/nmcj.v23i3.36383>

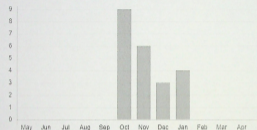
**Keywords:** Characterizing ions, Indicating ions, Oxalate stone, Urate stones, Urinary stone, Wet chemical method

### Abstract

The main aim of this study was to find an alternative method to type the urinary stones, which do not comply with the available method. For this study 100 stones were selected and were analysed by wet chemical method. The compositions of randomly selected 10 stones each among the stones typed based on the available and the new method were crosschecked by Fourier Transform infrared Spectroscopy (FTIR) method. Among the 100 stones, 46 stones were of Category I [21 stones Uric acid/Urate, 13 stones Oxalate, 12 stones Phosphate] while five were of Category II stones. Rest 49 stones, which cannot be typed by the available method, were typed by considering the ratios between the characterizing and indicating anions. To type the Oxalate stones, Oxalate to Urate ratio between 16.8:1 and 67.7:1; Urate stones, Urate to Oxalate ratio between 0.7:1 and 101.7:1 and Non-infection Phosphate stones, Phosphate to Oxalate ratio between 0.4:1 and 24.4:1 were considered. Based on the newly proposed method majority of the stones were of Oxalate type (n=41). Based on both the methods of stone typing, of the total 100 stones, 54 stones were Oxalate type, 25 stones were Uric acid/Urate type, 16 stones were Non-infectious Phosphate stones and 05 were Infectious stones. The

compositions of the randomly selected ten stones of each typed from the available and the newly proposed method were similar to the results obtained by FTIR method. This study indicated that, the new method could be used as an alternative method to type the stones.

## Downloads



Abstract  
59

PDF  
22

## Author Biographies

**Sivarangini Sivagnanam, University of Jaffna, Sri Lanka**  
Senior Lecturer, Unit of Siddha Medicine

**Vasanthy Arasaratnam, University of Jaffna, Sri Lanka**  
Department of Biochemistry, Faculty of Medicine

**Mangala Gunatillake, University of Colombo, Sri Lanka**  
Department of Physiology, Faculty of Medicine

[PDF](#)

Published

2021-10-17

How to Cite

Shwagnanam, S., Aravaranam, V., & Gunatilake, M. (2021). A Simple Method to Type the Urinary Stones. *Nepal Medical College Journal*, 23(3), 216-222. <https://doi.org/10.3126/nmcj.v23i3.36383>

[More Citation Formats](#)

Issue

[Vol. 23 No. 3 \(2021\)](#)

Section

[Original Articles](#)

License

Copyright (c) 2021 Nepal Medical College Journal



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).



Established by INASP in 2007. Managed by Tribhuvan University Central Library.

*Nepal Journals Online (Nepjol)* is a service to provide online publication of Nepalese journals. For more information about Nepjol and how to join the service, see the [About page](#).

## Information

[For Readers](#)

[For Authors](#)

## Current Issue

[Recent Publications](#)

[All Publications](#)

[All Journals](#)

Nepal Medical College Journal

ISSN 2676-1319 eISSN 2676-1424