P247

P247 -Analysis of kidney stone composition in a contemporary, large, region wide cohort from the North East of England

Professor John Sayer[1,2], Dr David Kennedy[3], Dr Susan Troup[3], Dr Charles Tomson[2], Dr Matthew Shaw[2], Dr Alistair Rogers[2]

[1]Newcastle University, Newcastle, United Kingdom, [2]Newcastle upon Tyne NHS Foundation Trust, Newcastle, United Kingdom, [3]Queen Elizabeth Hospital, Gateshead, United Kingdom

Introduction

Information on kidney stone chemical composition is based on historical cohort data. Our aim was to analyse stone composition in a large, current, region-wide cohort.

Methods

A central pathology centre analyses all renal stones submitted for analysis within all 10 hospitals within the region utilising Nicolet 380 Fourier Transform Infrared Spectrometry. This database was analysed for all renal tract stones between years 2013-2018. Bladder stones were excluded.

Results

5998 stones were included. Median age was 57 and Male:Female ratio 1.8:1. 63% were pure stones and 80% calcium based. Stone compositions are described in table 1. Calcium oxalate and mixed calcium oxalate / calcium phosphate accounted for the majority of stones. Uric acid stones accounted for 9.1% and cystine stones 1.7%.

Discussion

To the best of our knowledge this is the largest contemporary cohort of renal stone characteristics in the UK and Europe. It provides valuable insights into the current biochemical status of urolithiasis. Further work is underway to match serum and urine biochemistry data to stone composition.