



# Urinalysis is not a good test for urine tract infection in women with hypermobile Ehlers Danlos Syndrome

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## INTRODUCTION

Hypermobile Ehlers Danlos (hEDS) is known to be associated with abnormalities of the immune system which will increase the risk of bladder infection such as reduced mannose binding lectin in the blood and low immunoglobulin G.

Urinalysis is used as a method of screening for urinary tract infections. Previous studies have suggested urinalysis has a detection rate between 66 to 88% using data from 70 other studies (1).

The aim of this study is to determine if hEDS leads to a negative urinalysis which will mislead healthcare professions who suspect a urinary tract infection.

## METHODS

Women who were diagnosed with hEDS with a Beighton score of greater than 4 out of 9 were recruited. They all complained of lower urinary tract symptoms. A recently passed urine sample was analysed using Siemens multistix to test for leucocytes, blood, nitrates, protein, specific gravity, pH and urobilinogen using a Clinitek Status + analyser. The urine samples were then sent for urine microscopy and culture. The results were analysed using SPSS statistics v24, IBM 2016. Discrete data were analysed using the Chi Sq test and continuous parametric data were analysed using an independent t test with a significance level of  $p < 0.05$ .

## Interpretation of results

Women with hypermobile EDS do not produce an abnormal urinalysis when they have a urinary tract infection. Urine infections are better cultured. They do have a higher rate of multiple organisms in the urine.

## REFERENCES

- 1. BMC Urol. 2004 Jun 2;4:4.

## RESULTS

One hundred and sixty seven women were recruited. They had a mean age 62 years, sd 12.1 years.

Twenty eight women (15.7%) had a positive urinalysis with two out of three positive results for leucocytes, blood or nitrates.

In total there were 78 positive urine cultures (45.7%) of which only 17 (17.1%) were correctly predicted by the urinalysis.

In the laboratory microscopy 18 women were noted to have a microscopy which is suggestive of a urinary tract infection only 10 of these women (12.8%) were found to have a urine tract infection.

On the urine microscopy organisms were seen and classified as mild, moderate or large. Large numbers of organisms were seen on microscopy in eight patients. Thirty four women had moderate numbers of organisms on urine microscopy.

Overall 78 women had organisms grown in their urine. On urine culture 36 women had one organism grown from the urine, 34 women had two organisms grown in their urine and 8 women grew 3 organisms in their urine.

## CONCLUSIONS

Urinalysis should not be relied on to diagnose urinary tract infections in women with hypermobile EDS.

There is a need for an alternative screening test for women with hEDS.