Both et al. Journal of Translational Medicine 2012, 10(Suppl 3):P8
http://www.translational-medicine.com/content/10/S3/P8

JOURNAL OF TRANSLATIONAL MEDICINE

POSTER PRESENTATION Open Access

Distal renal tubular acidosis in primary Sjögren syndrome

Tim Both[1*], Ewout J Hoorn[1], Zana Brkic[2], Marjan A Versnel[2], Jan AM van Laar[1], P Martin van Hagen[1], Robert Zietse[1], Paul LA van Daele[1]

From 7th European Workshop on Immune-Mediated Inflammatory Diseases
Noordwijk aan Zee, the Netherlands. 28-30 November 2012

Introduction

Primary Sjögren syndrome (pSS) is a chronic inflammatory disorder characterized by lymphocytic infiltration of exocrine glands. pSS can also cause distal renal tubular acidosis (dRTA). dRTA is a disorder in which patients are unable to acidify their urine because of impaired hydrogen ion secretion in the collecting duct.

Aim

To determine the prevalence of dRTA in pSS using a urinary acidification test.

Patients and methods

62 pSS patients and 27 healthy controls participated in the study. After baseline measurements, both groups received a single administration of 40 mg furosemide and 1 mg fludrocortisone after which urine pH was measured hourly for six hours (Walsh *et al.*, Kidney Int 2007). dRTA was initially defined as a failure to achieve a urine pH < 5.3.

Results

At baseline, pSS patients had a significantly higher urine pH (6.2 ± 0.6 vs. 5.8 ± 0.7) and lower estimated ammonium secretion (10 ± 14 vs. 25 ± 23 mmol/l) than controls ($p < 0.01$ for both), already suggesting a subtle acidification defect in pSS. Only 4 pSS patients, however, had overt metabolic acidosis (serum bicarbonate < 21 mmol/l). During the test, 24 pSS patients (39%) failed to acidify their urine to a pH < 5.3.

Seven controls (26%), however, were also unable to reach a urine pH < 5.3 ($p = 0.3$). Therefore, we believe a urine pH of 5.3 may not be sufficiently specific for diagnosing dRTA in pSS. All controls did reach a urine pH of 5.8 or lower during the test. Setting the threshold at this level, 7 patients with pSS (11%) were diagnosed with dRTA.

Conclusions

The prevalence of dRTA in pSS is relatively high. A urinary acidification test is more sensitive to diagnose dRTA in pSS than serum bicarbonate, but the threshold for a positive test should be set at a urine pH of 5.8 instead of 5.3.

Author details
[1]Dept. of Internal Medicine, Erasmus MC, Rotterdam, The Netherlands.
[2]Dept. of Immunology, Erasmus MC, Rotterdam, The Netherlands.

Published: 28 November 2012

doi:10.1186/1479-5876-10-S3-P8
Cite this article as: Both *et al.*: Distal renal tubular acidosis in primary Sjögren syndrome. *Journal of Translational Medicine* 2012 **10**(Suppl 3):P8.

[1]Dept. of Internal Medicine, Erasmus MC, Rotterdam, The Netherlands
Full list of author information is available at the end of the article