Lack of risk factors predicting the development of genital mycotic infections among patients treated with dapagliflozin: the ABCD Nationwide Dapagliflozin Audit

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Abstract

Treatment of type 2 diabetes with sodium-glucose cotransporter 2 (SGLT2) inhibitors can result in genital mycotic infections. We investigated possible risk factors for developing such infections among patients treated with the SGLT2 inhibitor dapagliflozin. The Association of British Clinical Diabetologists (ABCD) nationwide dapagliflozin audit collected data on patients treated with dapagliflozin in routine clinical practice. Fifty nine diabetes centres participated. Using data collected, we assessed possible associations of patient's age, duration of diabetes, body mass index (BMI), glycated haemoglobin (HbA1c), renal function, sex, ethnicity, prior genital mycotic infection, urinary tract infection, urinary incontinence or nocturia with the occurrence of ≥1 genital mycotic infection within 26 weeks of treatment. A total of 1049 patients (476 women and 573 men) were analysed. Baseline characteristics were, mean (±SD), age 56.7 years (±10.2), BMI 35.5 kg/m^2 (±6.9) and HbA1c 9.4% (±1.5), 76.2% Caucasian and 3.5% had prior history of genital mycotic infection. Only patient sex (13.2% women vs 3.3% men) and prior history of genital mycotic infection (21.6% vs 7.3%) were found to be associated with the development of genital mycotic infections after dapagliflozin treatment (adjusted OR 4.22 [95%CI 2.48,7.19], p<0.001) and (adjusted OR 2.41 [95% CI 1.04,5.57], p=0.039), respectively. Women and patients with a history of genital mycotic infections had higher risks of developing genital mycotic infections with dapagliflozin treatment.

AIMS

To investigate clinical factors associated with the development of genital mycotic infections (GMI) among patients treated with dapagliflozin.

SUBJECTS

- ABCD invited diabetes centres across UK to submit data on patients treated with dapagliflozin in routine clinical practice.
- Data presented are from October 2014 to September 2016
- 59 diabetes centres participated
- Excluded from 1116 patients
  - <12 weeks of data (n=64)
  - Previous SGLT2 inhibitor use (n=3)
- 1049 patients analysed

ANALYSES

- Patients were divided into those with/without symptoms or confirmed GMI within 26 weeks of commencing dapagliflozin
- We compared baseline factors between patients with/without GMI using t-test and Chi-Square/Fisher's exact test.

RESULTS

	n	≥1 Genital mycotic infection		P value
		Yes	No	
Age (years)	1049	56 ± 11	57 ± 10	0.47
Duration of diabetes (years)	1048	11 ± 6	12 ± 7	0.27
HbA1c (%; mmol/mol)	1045	9.2 ± 1.5; 77 ± 16	9.4 ± 1.5; 79 ± 16	0.18
Weight (kg)	1046	97.7 ± 25.1	101.2 ± 22.7	0.23
Body mass index (kg/m^2)	1023	34.0 ± 7.4	35.4 ± 6.9	0.53
eGFR* (ml/min/1.73m^2)	932	92 ± 18	90 ± 18	0.32

	≥1 Genital mycotic infection		P value
	Yes	No	
Sex			
Female	63 (13.2)	413 (86.8)	<0.001
Male	19 (3.3)	554 (96.7)	
Ethnicity (n=947)			
Caucasian	51 (7.1)	671 (92.9)	-
Asian	20 (10.8)	166 (89.2)	0.11 (vs Caucasian)
Afro-Carribean	3 (10.7)	25 (89.3)	0.49 (vs Caucasian)
Mixed	1 (9.1)	10 (90.9)	-
Previous genital fungal infection <1 year			
Yes	8 (21.6)	29 (78.4)	0.007
No	74 (7.3)	938 (92.7)	
Previous urinary tract infection <1 year			
Yes	2 (9.5)	19 (90.5)	0.68
No	80 (7.8)	948 (92.2)	
History of urinary incontinence			
Yes	2 (15.4)	11 (84.6)	0.27
No	80 (7.7)	956 (92.3)	
History of nocturia			
Yes	11 (13.6)	70 (86.4)	0.06
No	71 (7.3)	897(92.7)	

RESULTS

Variables associated with GMI:

Patient sex (13.2% women vs 3.3% men) (adjusted OR 4.22 [95%CI 2.48,7.19], p<0.001)

Prior history of GMI (21.6% vs 7.3%) (adjusted OR 2.41 [95% CI 1.04,5.57], p=0.039)

CONCLUSION

Women and patients with a history of genital mycotic infections had higher risks of developing genital mycotic infections with dapagliflozin treatment

ACKNOWLEDGEMENT

The ABCD Nationwide Dapagliflozin Audit received an unrestricted grant from AstraZeneca, the manufacturer of dapagliflozin. The audit was independently initiated and performed by ABCD, and the authors remained independent in the analysis and writing of this report.

We like to thank all ABCD Nationwide Dapagliflozin Audit contributors for sending data to the audit.