Effect of dapagliflozin on HbA1c and weight after its addition to various combinations of other diabetes medications:
Association of British Clinical Diabetologist (ABCD) nationwide dapagliflozin audit

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BACKGROUND

The ABCD audits new pharmacotherapies for diabetes across the UK to collect real-world data on their usage, accelerate the understanding of new agents in patients in the UK and ascertain whether experience from clinical usage matches phase 3 trial data.

AIMS

To evaluate the effect on HbA1c and weight after adding dapagliflozin to various combinations of other diabetes medications, in patients with type 2 diabetes in UK

METHODS

The ABCD nationwide audit of dapagliflozin in real clinical use in the UK, was launched in October 2014. Anonymised data of patients treated with dapagliflozin in the UK was collected by an online password protected questionnaire:
- Patient demographics
- HbA1c, weight, BMI, Systolic BP
- Diabetes medications
- Adverse events

ABCD members, clinicians in both primary care and secondary care were emailed to invite them to submit clinical data on their patients treated with dapagliflozin

Data Input	Oct 2014 - March 2016
Centres	59
Contributors	156
Number of patients	1753

Those with baseline and follow-up HbA1c within a median (range) of 6.2(4.1-9.4) months, after commencing dapagliflozin were included. Data at baseline and first follow-up were compared using student's paired t-test.
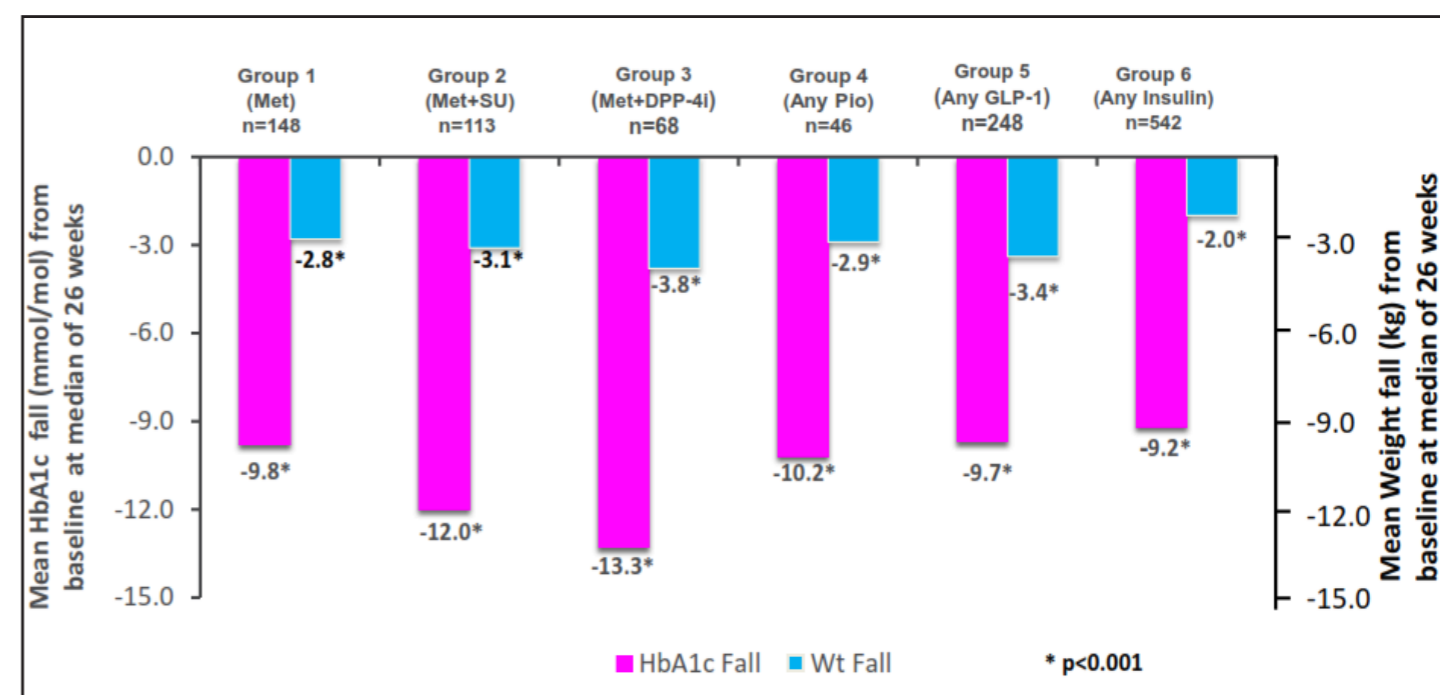
Patients were categorized into 6 groups according to their other diabetes therapies, dapagliflozin was added to : group 1 (metformin, n=148), group 2(metformin and sulphonylurea, n=113), group 3 (metformin and dipeptidyl peptidase-4 inhibitor(DPP4-i), n=68), group 4(pioglitazone with or without any other diabetes medications, n=46), group 5 (glucagon-like peptide-1 receptor agonist with or without any other diabetes medications, n=248) and group 6 (insulin with or without any other diabetes medications, n=542).

BASELINE CHARACTERISTICS

Groups	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6
Age (years)	54.5±10.3	58.5±10.1	55.1±11.0	54.9±10.4	56.2±10.2	57.0±10.1
Sex (Males%)	48.6	57.5	45.5	65.2	53.6	52.7
T2DM Dur(years)	5.9±6.3	7.6±5.3	7.1±5.2	8.3±6.6	10.9±7.6	12.3±8.2
Wt(Kg)	101.2±26.1	99.6±24.2	94.8±18.6	111.5±27.2	108.8±23.3	104.7±20.9
BMI (Kg/m²)	35.0±7.7	34.8±7.0	34.2±7.7	37.8±7.9	38.1±7.9	36.6±6.3
HbA1c (mmol/mol)	76.7±16.3	80.8±14.8	79.6±16.2	82.0±14.7	81.5±15.2	81.8±16.2
HbA1c(%)	9.1±1.5	9.5±1.3	9.4±1.4	9.6±1.3	9.6±1.4	9.6±1.5

RESULTS

Mean(±SE) HbA1c fell by(-9.8(±1.2)mmol/mol from 76.7(±1.3) to 66.8(±1.4) mmol/mol, p<0.001) in group 1, (-12.0(±1.2) mmol/mol from 80.8(±1.4) to 68.8(±1.3) mmol/mol, p<0.001) in group 2, (-13.3(±1.9) mmol/mol from 79.7(±1.9) to 66.3(±2.1) mmol/mol, p<0.001) in group 3, (-10.2(±2.3) mmol/mol from 82.0(±2.1) to 71.7(±2.8) mmol/mol, p<0.001) in group 4, (-9.7(±1.0) mmol/mol from 81.5(±0.9) to 71.8(±1.07) mmol/mol , p<0.001) in group 5 and (-9.2(±0.6) mmol/mol from 81.8(±0.7) to 72.6(±0.6) mmol/mol, p<0.001) in group 6.

Weight fell by (-2.8(±0.5)kg from 101.2(±2.1)kg to 98.3(±2.0)kg, p<0.001) in group 1, (-3.1(±0.4)kg from 99.6(±2.2) to 96.5(±2.2) kg, p<0.001 in group 2,(-3.8(±0.6)kg to 98.3(±2.2)kg to 90.9(±2.1) kg, p<0.001 in group 3, (-2.9(±0.6) kg from 111.5(±3.9)kg,p<0.001) in group 4, (-3.4(±1.1)kg from 108.8(±1.4) kg to 105.5(±1.4) kg, p<0.001) in group 5, (-2.0(±0.2) kg from 104.7(±0.9)kg to 102.6(±0.9) kg,p<0.001) in group 6.

diabetes on a variety of diabetes medications. Whilst the biggest impact was on those on DPP4i group and least for those on insulin, these differences were not statistically significant.

CONCLUSION

The different treatment groups all had similar poor glycaemic control (HbA1c>9%) but they varied with regard to duration of diabetes (longest duration were insulin and GLP-1 treated patient groups), BMI (heaviest GLP-1 and pioglitazone treated patients), age (youngest metformin only and pioglitazone treated patients) and sex distribution (pioglitazone treated predominantly male, DPP4i predominantly female).

Despite these differences dapagliflozin reduced both HbA1c and weight by clinically and statistically significant amounts in all the groups in this wide range of real world UK patients with type 2

ACKNOWLEDGEMENT

Where EVERYONE Matters