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Real-World Data Comparing the Effectiveness of Injectable vs Oral Semaglutide- Association of British Clinical Diabetologist (ABCD) National Audit

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Introduction

- GLP1a (Glucagon like peptide 1 agonists) is widely used in the management of people with type 2 diabetes.
- Semaglutide is the only GLP-1a available in both injectable and oral formulations.
- Oral semaglutide has demonstrated similar efficacy in HbA1c reduction and weight reduction compared to injectable liraglutide [1].
- Real-world data on comparing the efficacy between oral vs injectable semaglutide is limited, only available in smaller population size [2,3,4].
- The aim of this study is to compare between the two preparations in real-world setting so as to provide more informed decision to patients and clinicians.

Methods

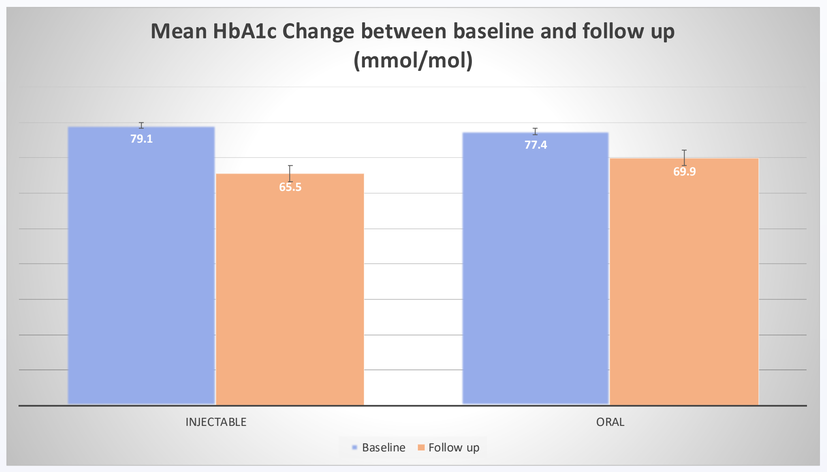
- Multi-center retrospective observational study from ABCD national audit registry.
- Data collected from 10 centers across United Kingdom from 2019 till 2024.
- Data was analyzed by STATA 18, using linear regression analysis with key variables including age and baseline HbA1c.

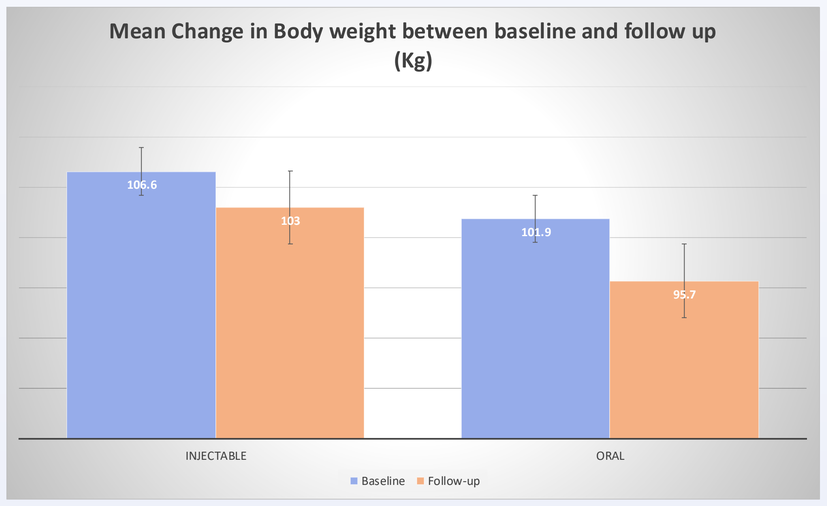
Results

- 1484 people were on injectable semaglutide group (49.2% female, mean age 58.9 +/- 10.9 years) and 636 people on oral semaglutide group (40.2% female with mean age 58.9 +/- 12.7 years)
- The mean follow-up time was 413+/-342 days in oral group and 180 days in injectable group.
- The injectable semaglutide showed statistically significant greater reduction in HbA1c and total cholesterol compared to oral group but the rest of the parameters are not statistically significant.
- The results are summarized in the table 1.0 as below.

	Injectable Semaglutide group			Oral Semaglutide Group			Mean difference of change in variables between two groups after intervention +/- Standard Deviation (SD) (p-value)
	Mean Baseline +/- Standard deviation (SD)	Mean Follow-up +/- Standard deviation (SD)	Mean difference between baseline and follow-up +/- Standard deviation (SD) (p-value)	Mean Baseline +/- Standard deviation (SD)	Mean Follow-up +/- Standard deviation (SD)	Mean difference between baseline and follow-up +/- Standard deviation (SD) (p-value)	
HbA1c (mmol/mol)	79.1 +/- 18.8	65.5 +/- 16.4	13.3 +/- 17.8 (<0.001)	77.4 +/- 18.6	69.9 +/- 19.2	8 +/- 19.4 (<0.001)	-4.07 +/- 1.2 (<0.01)
HbA1c (%)	9.4 +/- 3.9	8.1 +/- 3.6	3.4 +/- 3.8 (<0.001)	9.2 +/- 3.9	8.5 +/-3.9	2.9 +/- 3.9 (<0.001)	-0.5 +/-0.1 (<0.01)
Weight (Kg)	106.6 +/- 23.3	103 +/- 23.5	4.7 +/- 7.6 (<0.001)	101.9 +/- 22.5	95.7 +/- 21.7	4.7 +/ -8.7 (<0.001)	0.42 +/-0.5 (0.4)
BMI	37 +/- 7.4	36.1+/-7.1	1.5 +/- 2.1 (<0.001)	35.01 +/- 7.0	32.9 +/-6.8	1.7 +/- 3.1 (<0.001)	0.34 +/- 0.2(0.06)
ALT (IU/L)	30.6 +/-18.7	28 +/-16.3	2.4 +/- 15.1 (<0.001)	27.4 +/- 14.7	24.8 +/- 14.0	2 +/- 11.7 (0.18)	-0.52 +/- 1.1 (0.63)
Total Cholesterol (mmol/L)	4.4 +/- 1.2	4 +/- 1.0	0.4 +/- 0.9 (<0.001)	4.4 +/- 1.3	4.1 +/- 1.2	0.2 +/- 1.0 (0.004)	-0.1 +/- 0.1 (0.14)
Triglyceride (mmol/L)	2.9 +/- 2.4	2.4 +/- 1.7	0.5+/- 2.0 (<0.001)	3 +/- 4.0	2.6 +/- 2.9	0.6 +/- 2.9 (0.02)	0.2 +/- 2.4 (0.37)

Table 1. showing the mean baseline and follow-up data of injectable and oral semaglutide and mean differences of post-intervention variables between injectable and oral semaglutide groups (negative values mean injectable is superior to oral)





Conclusion

- Both oral and injectable Semaglutide groups experienced a reduction in HbA1c in UK real-world setting.
- Injectable Semaglutide was associated with a greater HbA1c reduction.
- These findings support personalized treatment choices based on individual preferences and ability to comply to oral ingestion instructions to ensure optimal absorption of oral formulation.

References

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