Glycaemic control, microvascular complications and outcome following transfer of care in young adults with childhood onset type 1 diabetes mellitus

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Introduction

The DCCT/EDIC studies have established that insulin intensification in adolescents with type 1 diabetes mellitus (T1DM) to achieve good glycaemic control is crucial for the prevention of medium term microvascular and long-term macrovascular complications. Despite the use of intensified treatment the average HbA1c in this age group remains above the recommended levels. A deterioration in glycaemic control following transfer of young adults with diabetes to adult care has been reported, particularly in cases of early transfer . Lack of engagement in services following transfer to adult care is reported.

Aims

To review the glycaemic control and rate of microvascular complications in adolescents and young adults with childhood onset type 1 diabetes (T1D); and to look specifically at a subset of patients before and after transfer to adult services.

Methods

All patients aged 17 to 23years with childhood onset T1D at a single tertiary centre were included. Patients were identified using our clinic database. Details of treatment control and complications were obtained from the database.

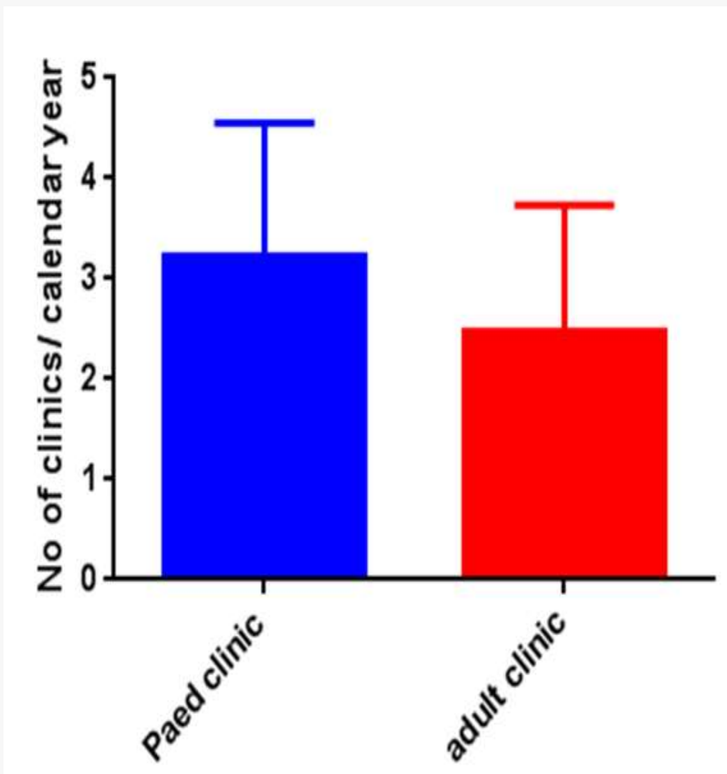
Conclusions

Only 12.5% of the study population met the target HbA1c of <58mmol/mol. Rate of microvascular complications in this group is very high. Diabetes care for young people needs to be designed to encourage engagement in the services and offer skills necessary for self management of diabetes

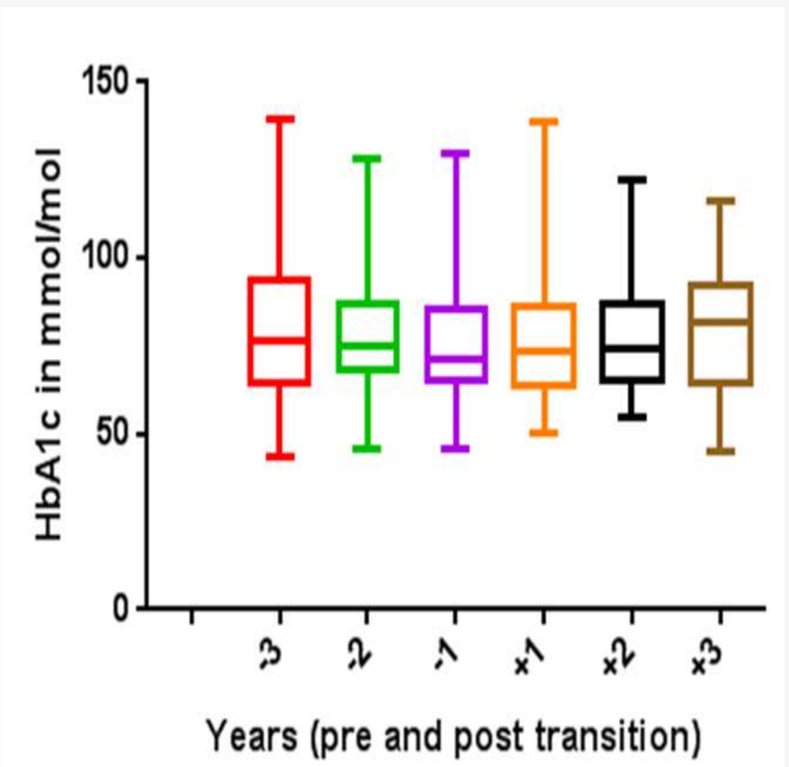
Results

Table showing glycaemic control, microvascular complications and presence of autoimmune conditions in young adults aged 17-23 years.

	All (n=104)	In transition (n=54)	Post transfer (n=50)
Mean age in years	19.5±1.8	17.9±0.6	21.2±1.0
Mean weight in kg	70.8±13	68.8±13.4	73±12.5
Mean BMI in kg/m²	24.8±4	24.0±3.7	25.5±4.2
Mean Diabetes duration in years	9.4±3.9	8.4±4.2	10.6±3.2
CSII (%)	29 (27.9)	16 (29.6)	13 (26)
MDI (%)	69 (66.3)	34 (62.9)	35 (70)
BD injections (%)	6 (5.8)	4 (7.4)	2 (4)
Mean HbA1c in mmol/mol	77±18	77±19	78±18
Mean HbA1c in %	9.2±1.7	9.2±1.8	9.3±1.7
Mean SBP in mmHg	122±11	122±13	122±9
Mean DBP in mmHg	71±9	68±8	75±8
Mean total cholesterol mmol/L	4.4±0.9	4.4±1	4.5±0.8
Mean LDL mmol/L	2.37±0.68	2.3±0.6	2.4±0.7
Mean Triglycerides mmol/L	1.31±1.1	1.3±1.1	1.3±1.0
Retinopathy (%)	45 (43.3)	29 (53.7)	16 (32)
Microalbuminuria (%)	11 (10.6)	7 (12.9)	4 (8)
Hypothyroidism (%)	7 (6.7)	2 (3.7)	5 (10)
Coeliac disease (%)	4 (3.8)	1 (1.8)	3 (6)



Clinic appointments reduced following transfer (3 monthly vs 4 monthly), however non attendance rate remains stable (3.2 vs 2.5 clinics attended per calander year pre and post transfer)



Mean HbA1c in the three years preceding and following transfer from paediatric to adult care. First year (47 data sets), second year (31 data sets) and third year (9 data sets)