Moving on or Moving Away?
Experience from the Adult Diabetes Service

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Overview

- Facts about RBH transition and YAC
- Challenges in YAC
- CV risk management in Young T2D
- Contraception and pre-conception
- Patient's experience
- Transition nurse experience

POLL

- What age do you transition YPwT2D to the adult/YAC service

1. <17
2. 17
3. 18
4. >18

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Diabetes Transition to Adult Care in the RBH

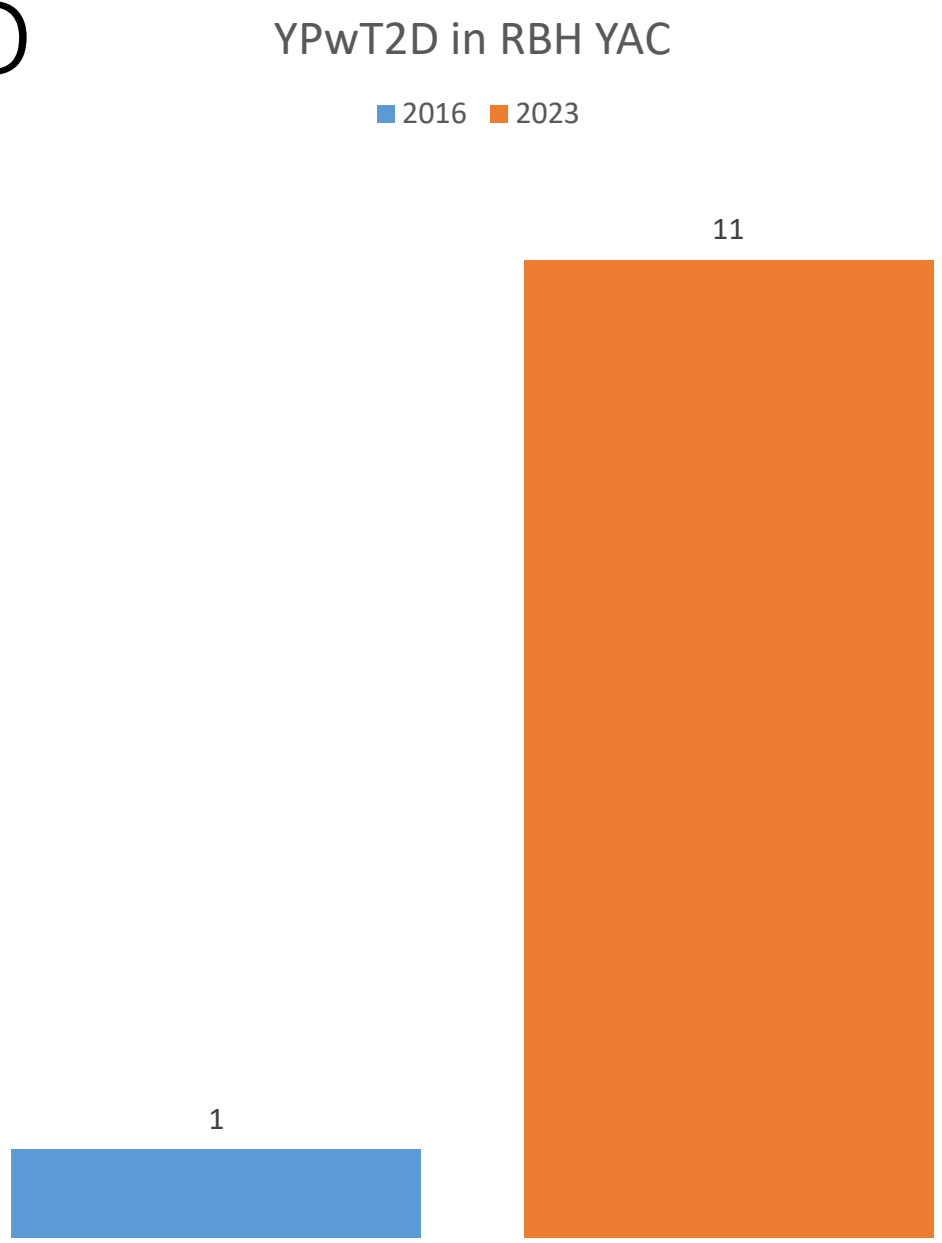
- Transition process starts at 14 yrs of age and usually patients' care transfer is completed around 17 (>18 in YPwT1D)
- YPwT2D meet the Adult Diabetes team (Consultant and Nurse) and are taken to see the adult clinic location on the same day
- Transition PDSN, Paeds dietician and psychologist continue to support until age 19
- YPwT2D diagnosed at the age of 16 or older will move straight to the Adult YAC with support from PDSN, dietician and psychologist from Paeds service
- Open channels with Paeds Diabetes team regarding YPwT2D, before transition

YAC in RBH and YPwT2D

In 2023: 11 patients

- Females: 8 (72.8%)
- BAME background: 7 (63.6%)
- Median BMI 35.4 (100% BMI>25)
- Median HbA1c: 41 (5: HbA1c<48)

- Metformin: 9 patients (81.8%)
- MDI: 3 (27.3%)
- GLP1RA: 4 (36.4%)
- SGLT2-i: 3 (27.3%)
- Basal Insulin: 2 (18.2%)



Challenges in the YAC

- Engagement of patients is variable
- Resources are significantly less than Paeds in terms of doctors' numbers, DSN, dietetic and psychology support
- Clinic traditionally has been geared to YPwT1D and local peer support group is only for YPwT1D (Berkshire Young People with Diabetes Council (BYPDC))
- YPwT2D face significant stigma particularly around weight
- Perception of T2D as being "milder" or "normalised"

YAC for PwT2D

- Consistency of messages across Paeds and Adult team regarding:
  - Importance of diagnosis
  - Implications of diagnosis
  - Remission of diabetes possible contrary to T1D
  - Support available
  - Resources available
- Working together in an MDT approach in view of complexity of issues experienced at that particular stage of life
  - Leaving family home
  - Starting work
  - Relationships with peers
  - Peer support challenging
  - Starting a family

Clinical Case 1

- AA admitted with severe DKA in June 2017 aged 16
- Male, BAME, ASD
- **At diagnosis:**
  - HbA1c: 119 mmol/mol
  - Negative antibodies,
  - BMI 36,
  - *Managed as T2D with MDI from diagnosis*
- 07/2017: HbA1c: 97 mmol/mol, Basal insulin dose reduced from 60 units to 50 units ON, Metformin started, BMI: 36.5
- 08/2017: HbA1c: 72 mmol/mol, Basal insulin dose reduced further to 3 units (from 30 units)
- 09/2017: *off insulin completely*
- 10/2017: HbA1c: 45 mmol/mol, on metformin 500 mg BD, BMI: 35.5
- 11/2017: HbA1c: 39 mmol/mol on metformin 500 mg OD, BMI: 37

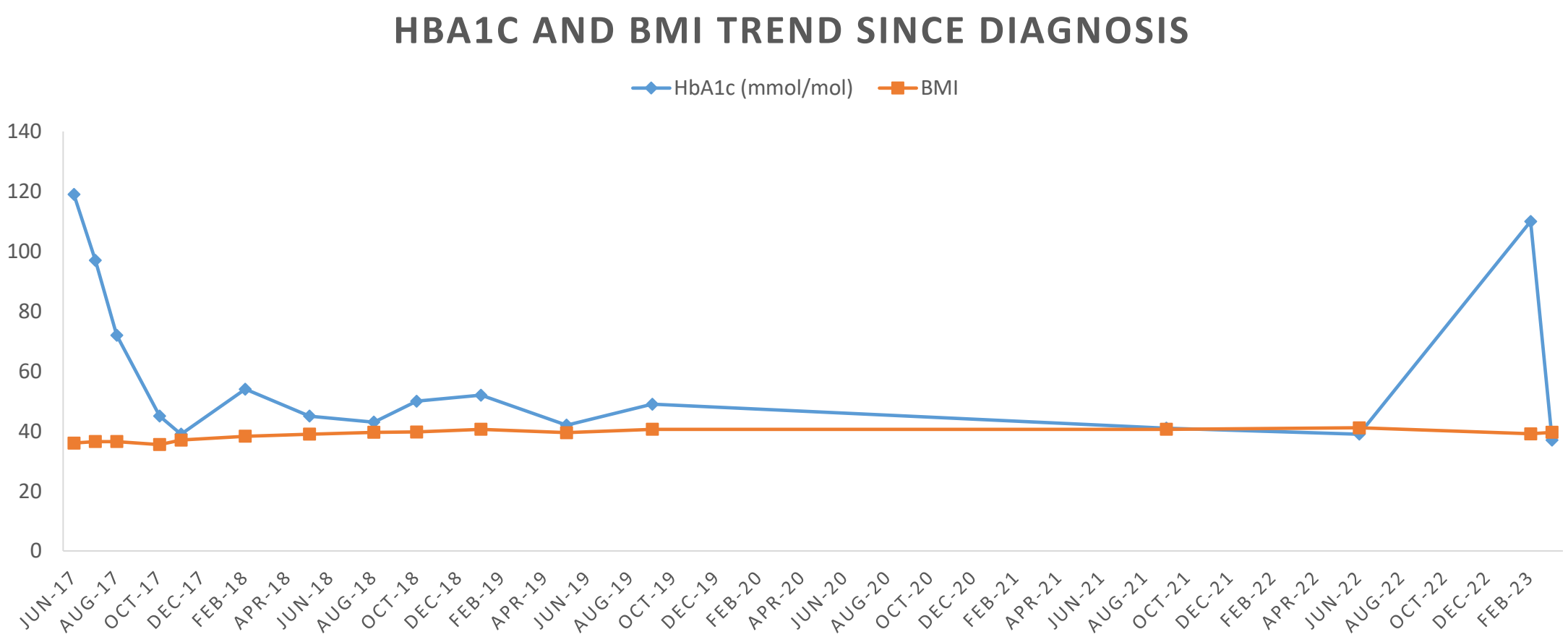
Clinical Case 1

- **02/2018:** HbA1c: 54 mmol/mol, on metformin 500 mg BD (misses the ON dose), BMI: 38.3
- **05/2018:** HbA1c: 45 mmol/mol, on metformin 1 gr BD, BMI: 39
- **08/2018:** HbA1c: 43 mmol/mol, on metformin 500 mg BD, BMI: 39.6
- **10/2018:** HbA1c: 50 mmol/mol, on metformin 500 mg BD (variable adherence), BMI: 39.7
- **01/2019:** HbA1c: 52 mmol/mol, on metformin 500 mg BD, BMI: 40.6
- **05/2019:** HbAc: 42 mmol;mol (metformin 500 mg BD, BMI: 39.5)
- **09/2019:** Transition clinic, HbA1c: 49 mmol/mol, BMI: 40.6
- **12/2019:** DNA in 1st YAC OPA
- *Lost to FU until 07/2021*: tele review

Clinical Case 1

- **09/2021:** HbA1c: 41 mmol/mol on metformin 500 mg BD, BMI: 40.6, started on dulaglutide
- **06/2022:** HbA1c: 39 mmol/mol, on dulaglutide 1.5 mg OW, metformin 500 mg BD, BMI: 41.1
- **02/2023:** admitted with DKA (ph:7, ketones 6.6), whilst on GLP1RA (?adherence)
  - UCPCR: 0.68, HbAc: 110 mmol/mol
  - restarted on MDI, continued on GLP1RA and metformin
  - Offered FSL
- **03/2023:** GMI : 37 mmol/mol, off Novorapid, reduced Levemir to 20 units BD

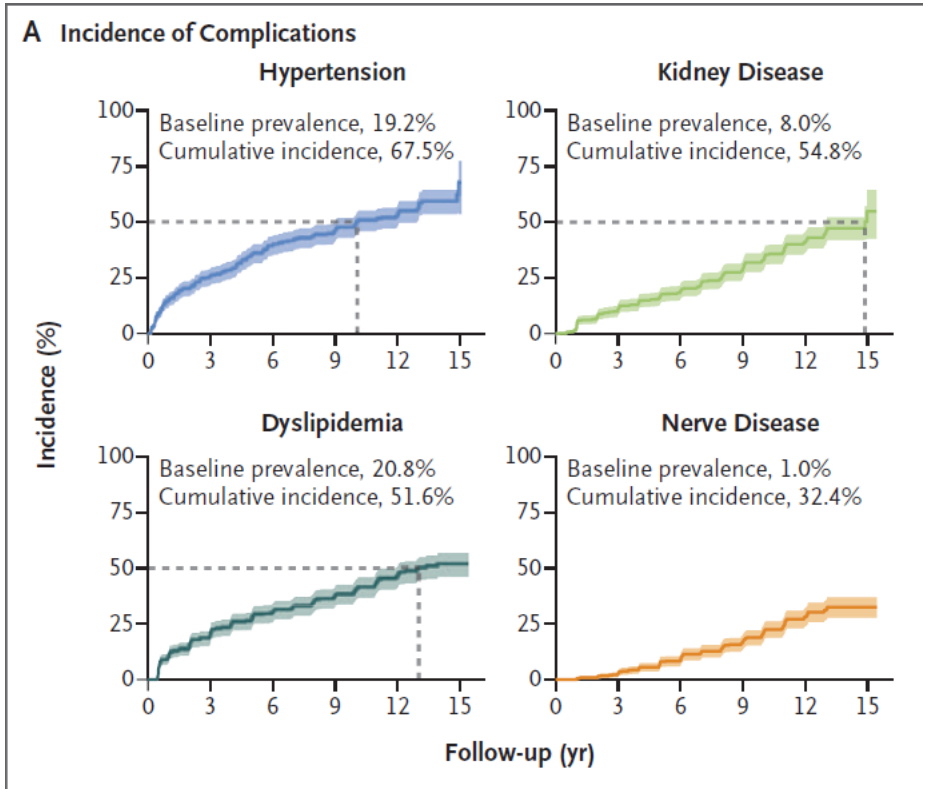
Clinical Case 1

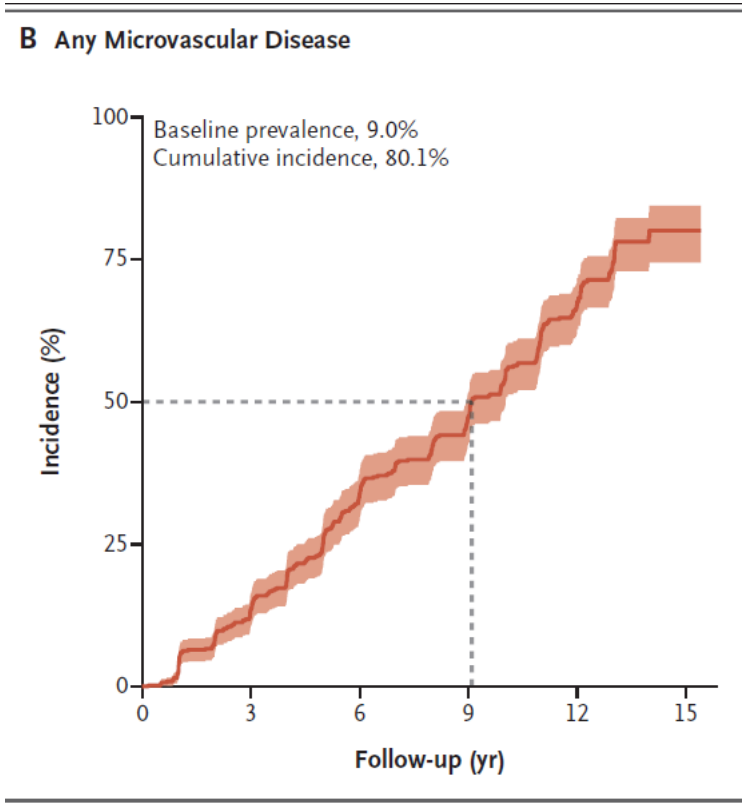


Clinical Case 1

- **ISSUES:**
  - Fluctuating HbA1c with variable adherence to medications
  - No weight loss effect by GLP1 RA
  - Engagement with YAC
  - Repeat severe DKA but hypoing on insulin

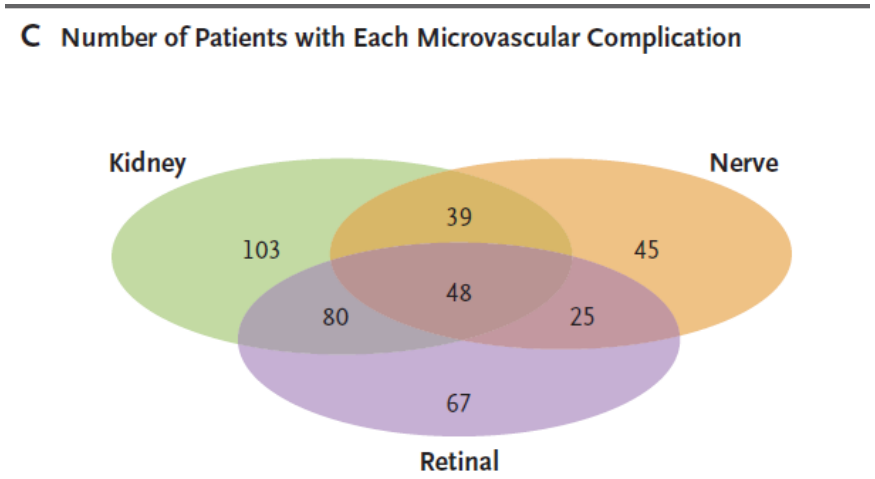
Diabetes Complications





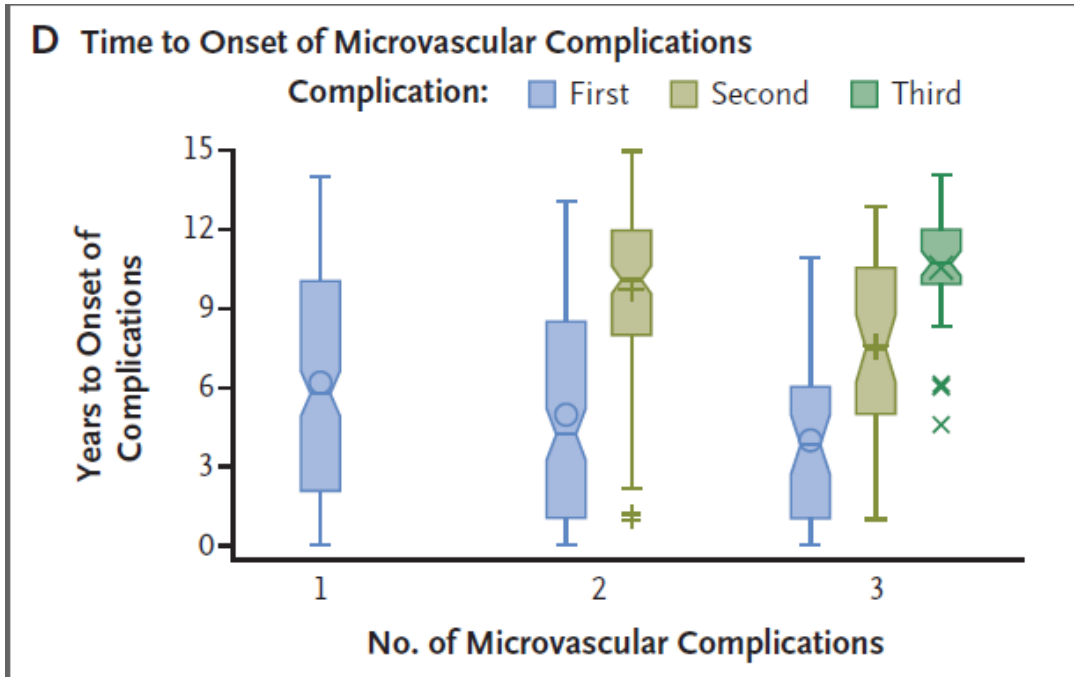
TODAY study group, N Engl J Med 2021;385:416-26.

Diabetes Complications



At the time of the last visit:

- 270/677 (39.9%) had no complications of diabetes,
- 215 (31.8%) had one complication,
- 144 (21.3%)had two, and
- 48 (7.1%) had three



Panel D shows the years to onset of the first and subsequent (if applicable) microvascular complications among participants with one, two, or three complications.
The bottoms and tops of the boxes represent the first and the third quartiles, respectively, and the horizontal lines inside the boxes indicate medians. The symbols inside the boxes indicate means, and the symbols outside the boxes outliers. I bars indicate the minimum and maximum range, excluding outliers.

TODAY study group, N Engl J Med 2021;385:416-26.

Diabetes Complications

- The risk of developing *any macrovascular complication* is **2x** in Young T2D.
- the risk of *MI* is **14x** in YT2D than in non-diabetes patients (2-4x in patients with middle/later life onset of T2D)

- **In summary:** YT2D is associated with more macrovascular and microvascular outcomes and a more rapidly progressing severity of complications than in T1D or late-onset T2D.

Hillier TA, et al *Diabetes Care* 2003; **26:** 2999–3005.
Gu W, et al. Diabet Med 2014; 31: 84–91.

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Diabetes Complications

- Other complications include:
  - impaired hearing
  - Reduced fertility
  - premature decline in cognitive function
  - Mental health conditions (eg depression)

Lerman-Garber I et al. Endocr Pract 2012; 18: 549–57.
Bener A, et al. Int Urol Nephrol 2009;41: 777.
Nolan JJ. Diabetologia 2010; 53: 2273–75.

Management of commorbidities

Pharmacotherapy

- No data to show a reduction in adverse cardiovascular events with rigorous control of cardiovascular disease risk factors in T2D adolescents; typically < 30% achieve glycaemic or lipid targets
- less likely to be prescribed lipid-lowering treatments, renin-angiotensin system inhibitors, or anti-platelet drugs

Yeung RO, et al. Lancet Diabetes Endocrinol 2014; 2: 935–43.
Miglani S,
Reinehr T, et al. Horm Res 2008; 69: 107–13.

Real Life experience

- Challenging to initiate pharmacotherapy for other comorbidities (eg HTN, hyperlipidaemia) in YPwT2D:
  - Burden of “too many medications from a young age”
  - Clinicians hesitancy in view of young age, particularly in women
  - Variable adherence
  - Perception of patients and family of the severity of the disease and the need for medications
  - No strong evidence to support their use in prevention of longterm complications

Pre-conception and YT2D

- Women with YT2D often have PCOS:
  - irregularity in periods
  - Insulin resistance antagonises weight loss
  - Hirsutism impacts further on body self-image and confidence
- Addressing contraception is of paramount importance
- Choice of contraceptive strategy depends on the individual but should always be addressed

Pre-conception and YT2D

- Regular discussions about pregnancy:
  - **Important to plan pregnancy**
  - **Start 5 mg folic acid at least 3 months before trying to conceive**
  - **Aim for HbA1c<48mmol/mol**
  - Stop any teratogenic drugs (statins, ACE-i/ARB) or drugs not known to be safe to conceive on (SGLT2i, GLP1RA)
  - May need to start insulin to achieve good control
  - Information on antenatal care in women with T2D and the need to inform us of the pregnancy asap

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Patient’s perspective

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DSN Reflection on the T2D Service at Royal Berkshire

Challenges

- Set up of service mostly suited for YPwT1D making it not easily adaptable to YPwT2D
- Lack of material and resources for YPwT2D both locally and nationally
- Tendency to transfer patients from Children Services to YAC earlier than YPwT2D

- Those with learning disabilities require more interventions and support

- Paediatric Dietetic support is excellent but after 19yrs of age is limited

- Young Adult PDSN support is offered regularly until the age of 19yrs where the DSN support becomes limited

Challenges

What can be improved?

- Education geared towards T2D in Children and Young People
- Appropriate literature for T2D in Children including medical management for Paeds Doctors to follow
- T2D guide handbook for parents and young people

Plans Going Forward

- Working on a Newly Diagnosed with T2D Booklet for YP and Parents
- Offer in workshops and study sessions directed at T2D in YP and children
- Supporting research initiatives

Summary

- T2D in YP although rare pauses various challenges to the YAC service
- Importance of engagement of patients and how to achieve this
- Importance of addressing comorbidities and complications of YPwT2D
- Preconception advice is of paramount importance
- Listening to the voices of YPwT2D and working collaboratively in the MDT

Voidomatis river, Epirus, Greece

Thank you!

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