Complexities in the management of New-Onset Diabetes Mellitus after Transplantation (NODAT) in an adolescent with Senior Loken syndrome

Philippa Bowen1, Alison Garde1, Rebekah Adams1, Sophie Velleman1, Carol Inward1, Dinesh Giri1

1Bristol Royal Hospital for Children, Bristol, United Kingdom

The above authors declare no potential conflicts of interest

Background

- NODAT is associated with reduced graft function/survival and increased patient morbidity/mortality
- Multifactorial pathogenesis: insulin resistance vs impaired insulin secretion
- Few studies in paediatric/adolescent populations, with inconsistent results and lack of consensus for management

Case

- 16 year old male with renal failure 2° to Senior-Loken syndrome and deceased donor renal transplant
- Commenced on Prednisolone, Tacrolimus, Azathioprine for post-transplant immunosuppression
- NODAT two months post-transplant: Blood glucose (BG): 10-26mmol/L, HbA1c: 86mmol/mol, GAD/IA2/ZnT8 antibodies: negative and C-peptide: 554pmol/L (low)
- Managed with Insulin Lantus → Insulin Degludec
- Significant psychosocial and behavioural problems. Complete non-compliance with insulin injections despite intense psychological support
- Commenced on trial of Gliclazide 20mg, once daily. Sustained HbA1c improvement (Figure 1)

Figure 1: Treatment graph showing an improvement in glycaemic control with Gliclazide

Conclusions

- Insulin therapy adds to significant treatment burden in post renal transplant patients
- Oral sulfonylureas or biguanides - potential alternatives in paediatric NODAT
- Need for robust trials and more definitive international guidelines specific to paediatric populations

Reference