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

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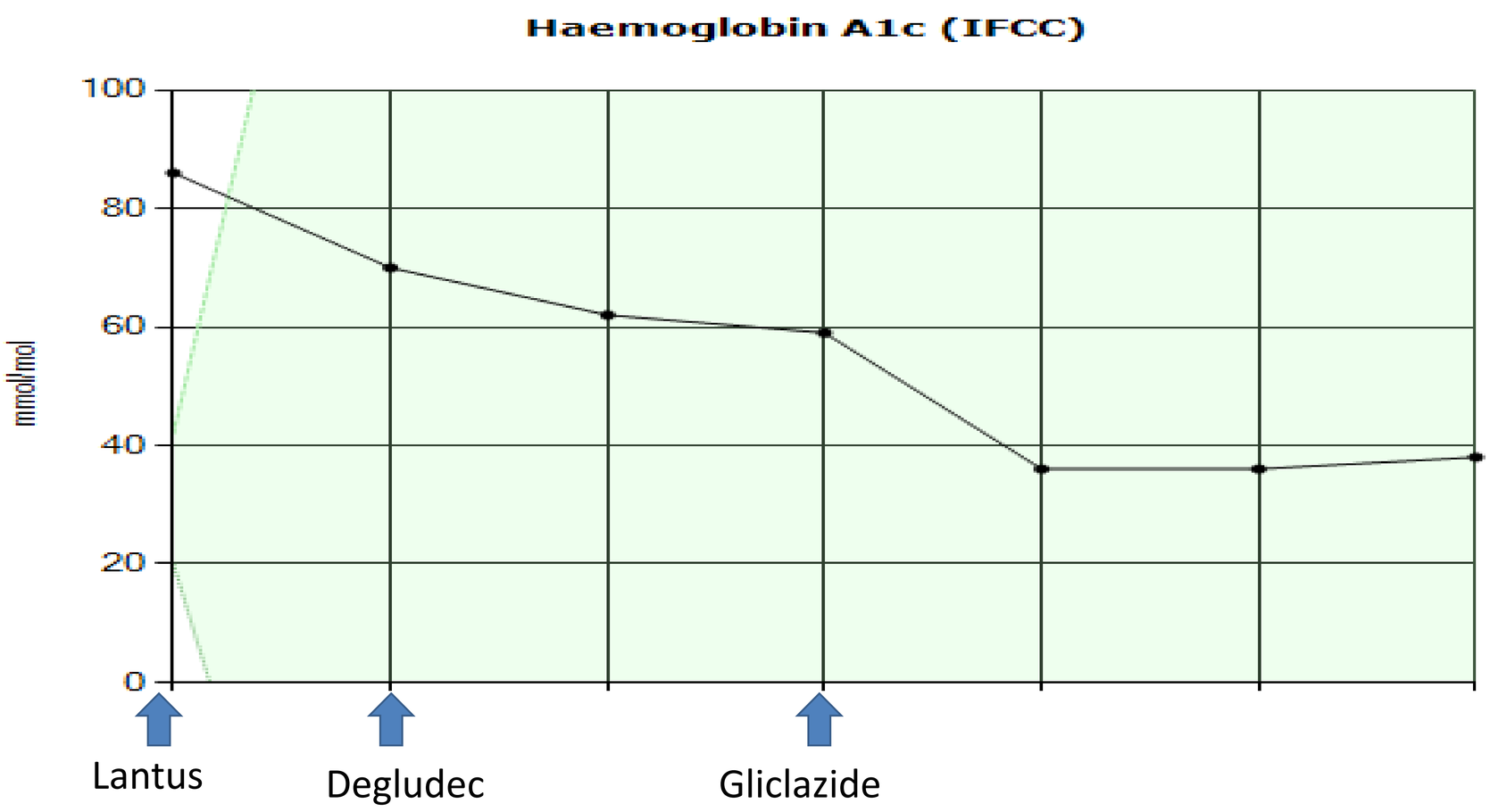
Background

- NODAT is associated with reduced graft function/survival and increased patient morbidity/mortality[1]
- Multifactorial pathogenesis : insulin resistance vs impaired insulin secretion[1]
- Few studies in paediatric/adolescent populations, with inconsistent results and lack of consensus for management[1]

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

1. Garro R, Warshaw B, Felner E. New-onset diabetes after kidney transplant in children. Pediatr Nephrol (2015) 30:405–416