

Guidance for transferring HNF1A MODY or HNF4A MODY patients from insulin to sulphonylureas

Introduction

This approach would be appropriate for patients with a confirmed disease-causing variant in *HNF1A* or *HNF4A* who have **not** previously progressed from diet, to sulphonylureas to insulin and with no previous history of ketoacidosis. Often these patients have been on insulin from diagnosis, in such cases we advise checking that GAD, IA2 and ZnT8 pancreatic antibodies are negative prior to transfer. These tests can be performed by the Exeter laboratory on request (<http://www.exeterlaboratory.com/test/gad-antibodies/>).

Some evidence of non-insulin dependent diabetes is also helpful (but not essential), for example: a C-peptide measurement indicating the patient is producing some insulin of their own or patient's own report of missing insulin for approx 3 days with no problem. We are able to measure urinary c-peptide creatinine ratio (UCPCR) in Exeter (<http://www.exeterlaboratory.com/test/c-peptide-urine/>). Post prandial urine samples should be collected into boric acid containers (35ml MSU pot, red top) and posted via your local laboratory to Clinical Chemistry, Area A2, Royal Devon and Exeter Hospital, Barrack Road, Exeter, EX2 5DW.

Prior to transfer

The patient should be advised this is a 'trial' off insulin and if unsuccessful, insulin will need to be recommenced. As HNF1A MODY is progressive insulin treatment is likely to be needed again in the future. Transfer off insulin is likely to be most successful in younger patients (<40years) with a shorter duration of diabetes (<20years). HbA1c should be tested prior to the transfer to sulphonylureas. Weight on insulin and total daily dose of insulin before stopping insulin should also be recorded.

Transfer from insulin to sulphonylureas

Insulin should be stopped and Gliclazide 40mg commenced once daily (od) initially (20mg Gliclazide could be the starting dose for slim adolescents and 80mg Gliclazide could be the starting dose for those who have had diabetes >20years). The dose should be increased as necessary and if 80mg once daily is not sufficient a second daily (bd) dose could be added. Patients with HNF1A MODY who have transferred from insulin successfully to date are currently managed on between 20mg and 320mg Gliclazide. We recommend daily contact with a Diabetes Specialist Nurse (DSN) initially for support and dosage adjustment. This may be the [Genetic Diabetes Nurse](#) in your area, or your own DSN supported by the Exeter team (contact [Maggie Shepherd](mailto:m.h.shepherd@exeter.ac.uk) on 01392 408261 m.h.shepherd@exeter.ac.uk). The patient should be asked to test their blood glucose 4 times a day initially and test their urine for ketones. Please warn the patient about the possibility of hypoglycaemia on this treatment.

Follow up

We recommend that HbA1c levels be repeated at 3 monthly intervals. If this regime fails to control BG levels as indicated by a rise in HbA1c of 1% or more from that last recorded on insulin or the presence of hyperglycaemic symptoms then patients should be recommenced on insulin. The use of long acting insulin in combination with sulphonylureas could be considered. Glycosuria in HNF1A MODY patients is likely as these patients have a low renal threshold.

Further information

For specific advice regarding individual patients please contact: Maggie Shepherd on 01392 408261 m.h.shepherd@exeter.ac.uk or Prof Andrew Hattersley on 01392 408260 a.t.hattersley@exeter.ac.uk.