Joint simultaneous islet-kidney (SIK) transplantation at King's-Guy's: proposal document

Summary

Simultaneous islet-kidney (SIK) transplantation is increasingly common in the UK, and early UK experience suggests that this is a viable transplant option for selected patients with type I diabetes (T1D) and end-stage renal disease (ESRD). However, current UK services are limited to just four units, with none in London or the southeast of England. This suggests inequity of geographical access. After detailed discussions between the King's College Hospital (KCH) islet transplant unit, and the Guy's Hospital (GH) kidney and pancreas transplant unit, we propose a joint KCH-GH SIK service, with transplants taking place at GH. This document gives further details and is for information for PAG/ISG colleagues.

1. Background and context

a. There are multiple transplant options for patients with T1D and ESRD. Increasingly, UK patients are being offered SIK transplantation, with 28 patients active on the waitlist for an SIK at 31 March 2025.

b. SIK transplantation is an option for selected patients with T1D and ESRD, especially those that are deemed high-risk for simultaneous pancreas-kidney (SPK) transplantation (e.g., cardiovascular risk, vascular disease, reduced abdominal domain) or those patients that are concerned with the early post-operative morbidity associated with SPK transplantation, but who still wish to receive the additional glycaemic benefits that islet transplantation brings.

2. Current UK SIK service provision and other referral pathways

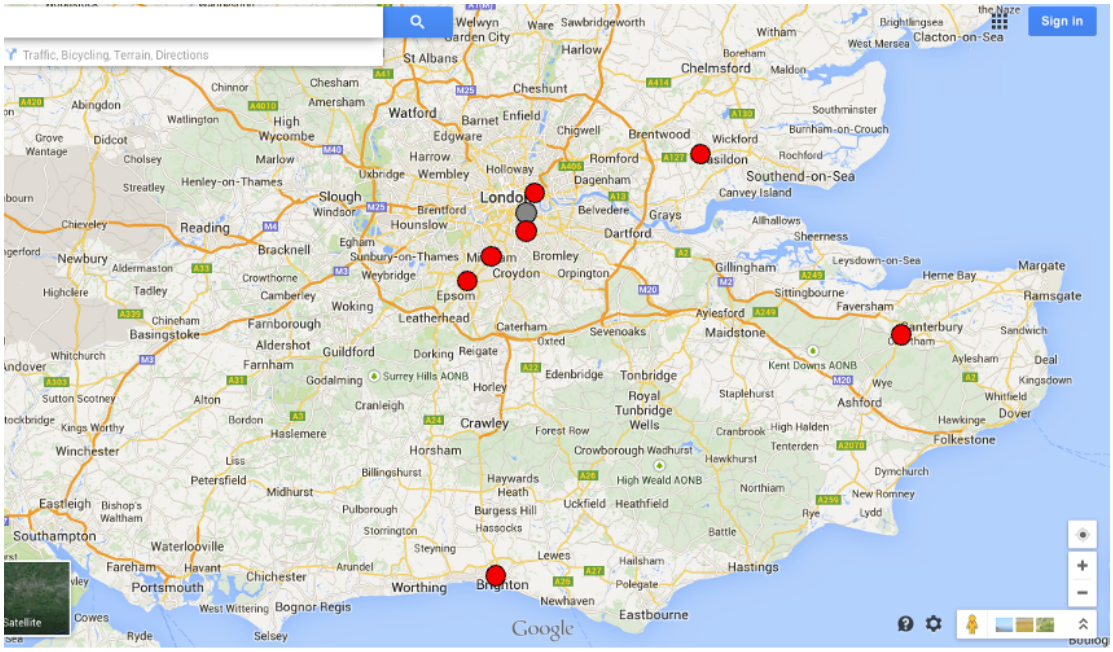
a. At present, SIK transplantation has only been performed in four UK units (Edinburgh, Newcastle, Manchester, and Oxford). Pancreas and kidney transplant units are also present at GH, Cambridge, Cardiff, and West London (Hammersmith Hospital). Islet-only transplants are also offered at KCH. So far as SIK transplantation is concerned, this suggests geographical inequity of access, including to patients in parts of London and the southeast of England.

b. The KCH islet transplant unit is not co-located with a kidney transplant unit. However, GH, a large kidney and pancreas transplant unit, is approximately 3 miles away. The two units have had close links for many years, with joint MDTs and joint clinics to enable access to transplant diabetology expertise. The two Trusts are also formally linked under the umbrella of King's Health Partners, bringing together research, education and clinical practice into an academic health sciences centre. The Trusts share an electronic health record system (Epic).

c. The GH pancreas transplant unit receives referrals from the following nephrology units: the Royal London Hospital, Basildon University Hospital, St George's Hospital, St Helier Hospital, Kent and Canterbury Hospital, KCH, Royal Sussex County Hospital (Brighton), as well as internal referrals from GH (see map below).

d. Potential pancreas/islet transplant patients from the Royal Free Hospital are currently referred to Oxford. Potential pancreas transplant patients in west London are referred to the Hammersmith Hospital team.

e. Over the last 3-4 years, the GH pancreas transplant unit has offered referral to current SIK transplant units to those patients that might be suitable for SIK transplantation; to date, no patients have accepted these offers. Those patients have either opted for a higher-risk SPK transplant, or for a kidney-only transplant instead. Patients have shown interest in SIK transplantation at GH.



Map of referral area for GH pancreas transplant unit (grey dot) and referral partners (red dots). Guernsey not shown. Estimated population 5 million.

3. KCH-GH discussions

a. Discussions have been active between GH and KCH colleagues about a joint SIK unit for some years. However, it was difficult to reach agreement as to where SIK transplantation should be performed.

b. A joint meeting was held in February 2024, with representation from GH and KCH managers and clinicians from across the relevant multi-disciplinary teams (surgery, diabetology, nephrology, interventional radiology). Expert external input was provided by David van Dellen (Manchester) and John Casey (Edinburgh).

c. At the end of this meeting, it was agreed by both KCH and GH teams that SIK transplants would be performed at GH, with joint input from KCH-GH clinicians. Any SIK patient needing a priority (top-up) islet transplant would receive it at KCH.

4. Proposal for a joint KCH-GH SIK programme

a. The proposal is that appropriate patients with T1D and ESRD that are currently referred for assessment of transplant options by the GH pancreas unit are offered SIK transplantation at GH instead of referral to other SIK units. Other pancreas transplant units in London that wish to refer to the KCH-GH SIK programme would be welcome to do so.

b. Assessment criteria, work-up, and consent would be as per NHSBT and BTS guidance. Current joint KCH-GH MDT pathways and clinics would be utilised.
c. SIK transplantation would take place at GH (kidney transplantation first followed by IR-guided islet transplantation 24-48 hours later, also at GH). At least initially, IR expertise would be provided by KCH IR colleagues travelling to GH. Immunosuppression protocols would be in line with those of current SIK units.
d. Patient follow-up after SIK transplantation would initially be at GH (kidney transplant care) and KCH (islet transplant care), as per current protocols.
e. Based on current referral patterns of patients previously judged suitable for SIK transplantation, we estimate that KCH-GH SIK volume would be approximately 5 patients per year, initially.

5. Guidance and support thus far

a. Regular meetings have been held between KCH and GH clinical colleagues to take forward these proposals, with the support and input from KCH and GH Clinical Directors.
b. This proposal has been supported by the previous PAG Chair (S White).
c. Early discussions have been held with NHS England Highly Specialised Services Commissioner (S Watson) and the National Transplant Clinical Lead (D Thorburn).
d. Advice and clinical protocols have been kindly received from J Casey and D van Dellen, with thanks also to colleagues from Oxford.
e. Ongoing clinical mentorship of this proposed programme will kindly be provided by A Sutherland (Edinburgh).
f. NHSBT has been made aware of these plans (D Manas), as has the OTDT Hub (J Whitney).
g. Discussions have been held with the Human Tissue Authority; their view at present is that new licensing of GH is not required.

6. Future plans and timelines

a. KCH and GH colleagues will submit clinical protocols, patient education documents, and guidelines to relevant GH Directorates for clinical governance approval and engage further with relevant clinical teams and patient groups.
b. We will await the outcome of our submission to NHSE HSS and confirm HTA views.
c. After PAG/ISG discussion, further detailed discussions will be had with regional referral partners and other London units.
d. We will inform NHSBT and OTDT Hub when we feel we are within 3-4 months of activating our programme.

KCH-GH SIK project team

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