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Department of Gastroenterology
Patient Information
Small Bowel and Multi Visceral Transplants, frequently asked questions

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Authors Small bowel transplant specialist nurses
Pharmacist N/A
Department Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ
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Why can’t I have an intestinal transplant instead of parenteral nutrition?

This seems a natural question to ask if you are told that you require long-term intravenous feeding. After all, it is commonplace for failing organs to be replaced when necessary. Organs that are now routinely transplanted include liver, kidney, pancreas, heart, lungs and bone marrow. In some cases, for instance when the liver fails, transplantation is the only option. However, in other cases, alternative treatment is available – for instance dialysis maintains the patient with kidney failure, without need for a transplant. Similarly, parenteral nutrition is an excellent means of supporting a patient when the intestine fails, and it is so effective that it still provides a better outcome in the majority of cases than intestinal transplantation.

Why is parenteral nutrition preferable to intestinal transplantation?

There are obviously drawbacks to both parenteral nutrition and transplantation. The short-term results after intestinal transplantation are now very good, but at this stage we cannot guarantee the long-term results. On the other hand, we now have decades of experience with parenteral nutrition, which we know to be an extremely good therapy, despite the many practical downsides.

Why has intestinal transplantation lagged behind transplantation of other organs?

The intestine has always been considered a difficult organ to transplant. Of all the organs that are transplanted, it is the only one which is not sterile. Any damage to the intestine can result in bacteria crossing into the patient’s blood stream and causing a life-threatening infection.

How do I find out more?

Your consultant will be able to provide further information should you require it. However, for specialised information relating to intestinal transplantation, there is now a website address – www.intestinaltransplantation.co.uk – and this provides links to the major centres for further information.
Alternatively, if transplantation seems to be the best option for you, then you will be invited to attend one of the two transplant centres. A transplant coordinator (nurse) from one of the units will contact you, and the transplant team may see you in your own hospital clinic, or in their hospital. This gives the opportunity to find out a little more about the process.

What does the operation involve?

On the day of the operation you will be contacted by telephone and asked to make your way to the transplant centre as soon as feasible. You will then be checked by the surgeon and anaesthetist to make sure that all is well. A team of surgeons will retrieve the organs, but if they are found not to be suitable for you the operation can be cancelled even at the last moment. The operation can take many hours, and it is usual for patients to be kept on the intensive care unit for one or two days afterwards to keep a close eye on them.

Does the new intestine work normally?

It is extraordinary that the transplanted intestine recovers very quickly and can be absorbing all the nutrients required within one or two weeks. The absorption of fat can be problematic for a while, and this may require some dietary manipulation in order to make sure that you are receiving enough calories and nutrients. If the stomach is transplanted, can take 10-14 days to start to work again properly, during which time it is usually bypassed by a tube allowing feeding directly into the intestine.

The most common reason for damage to the transplanted intestine is the patient’s immune system recognizing that the intestine does not ‘belong’ and attacking it; this process is called ‘rejection’. Rejection is prevented by the use of powerful drugs that stop the body from mounting a normal response to infection. This can result in a ‘Catch 22’ situation where we have to strongly suppress the body’s immunity to infection at exactly the same time that it is under attack from bacteria crossing the damaged intestinal wall.

In the 1970s when organ transplantation was being developed, parenteral nutrition became available, and this effectively stopped development of intestinal transplantation. Only over the last 15-20 years have we come to realize that not all patients can manage indefinitely with intravenous feeding, and fortunately, advances in transplant surgery over this time have made intestinal transplantation more possible.

When might I need an intestinal transplant?

At the moment, we only really consider intestinal transplantation when there are problems with parenteral nutrition. This is very dependent on having veins through which we can insert tubes to feed into the blood stream. These veins may narrow or block over time, and parenteral feeding may then not be possible. Because we also need good veins for the transplant operation, we need to start thinking about transplantation when two or more major veins are no longer available to us for feeding.

Sometimes, patients who have recurrent infections are considered for transplantation. However, we often find that there are other ways of preventing these recurrent infections without needing to transplant the intestine.
The liver can be damaged in patients who require long term intravenous feeding. We are beginning to understand the reasons why this occurs, and we often consider transplantation in patients who have very little remaining intestine, before significant damage to the liver occurs. However, in some cases the extent of the liver damage means that we have to transplant the intestine and the liver at the same time.

**What about ‘quality’ of life?**

We should not measure outcomes simply in terms of life expectancy. Whilst there are many undesirable aspects of parenteral nutrition that can profoundly affect quality of life, there may be similar issues after transplantation. For instance, patients need to take large amounts of medications that have side effects. After the operation, we need to keep a close eye on patients and this means frequent visits to the transplant centre and occasional overnight stays. Overall, this means that when we try to measure quality of life, it is about the same, but no better, after transplantation than for patients who are stable whilst on parenteral nutrition.

However, there are circumstances where the quality of life on parenteral nutrition can be very poor: for instance if patients are losing large amounts of fluid through a fistula or nasogastric tube. Intestinal transplantation might well be the best option in such cases.

**Where is intestinal transplantation being carried out?**

There is a relatively small demand for intestinal transplantation at present, and only four centres in the UK carry out the procedure. Birmingham Children’s Hospital has long been established as the children’s intestinal transplant centre – this has now been joined by King’s College Hospital in London. Adult intestinal and multivisceral transplantation has been taking place in Cambridge over the last 15 years. Oxford has recently also been added as a centre but only for patients who do not require a liver transplant as part of the procedure.

**What happens if my consultant recommends a transplant for me?**

The adult transplant centres in Cambridge and Oxford like to know about patients in good time so that procedures can be planned well in advance. It is still preferable to avoid transplantation if at all possible, and for this reason the transplant centres have very close links with the National Intestinal Failure centres at St Mark’s Hospital in London and Salford Royal Hospital in Manchester. All the staff involved with transplantation in these four centres meet regularly at the NASIT – National Small Intestinal Transplant – forum to discuss patients being considered for transplantation. Your consultant will be able to refer patients to the NASIT forum and we encourage referring consultants to attend in order to discuss their patients.

Following referral, your consultant may discuss with you the option of being seen at one of the National Intestinal Failure Centres in order to try to optimize your parenteral nutrition as an alternative to transplantation.