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The Broken Gift – A Donor Optimisation Analogy

There was once a man called Smith and he who owned a laptop. Now Smith couldn't use his laptop anymore. So Smith wondered whether someone else might be able to use it instead. He'd heard that schools in Africa were always after used laptops and by chance he knew a man, called Jones, who was going to Africa.

So he asked Jones to take his laptop and give it to an African school.

Jones agreed. But when Jones came to pack his bags he threw the laptop in at the last minute, and took no steps to protect it.

When Jones arrived in Africa he discovered that the laptop was broken.

To whom did Jones owe the duty of care?

Donor optimisation can be defined as clinical actions designed to protect or improve the quality of donated organs while still in the donor. This would normally be in patients who have been confirmed dead using neurological criteria (brainstem death) and whose organs are maintained with ongoing mechanical ventilation. It would also include additional actions such as the administration of steroids and tight control of physiological parameters.

Traditionally in intensive care, donor optimisation was either half-hearted or justified by reference to the actions serving the interests of the future organ recipients. Indeed, I was taught that on consultant intensive care ward rounds, one should walk right on past that bed space because the patient was dead and there was nothing we could or should do. A behaviour I regret modelling in the early part of my consultant career.

It now seems clear to me that, like Jones, I owe a duty to protect the gift of the organ donor and their family. Patients and families, who agree to organ donation, want to donate good organs not bad, so that the greatest benefit can be realised. Intensive care is thus entrusted the role of 'middle man'. A responsibility ensues because of our obligation to the patient and family under our care, that the gift reaches the recipient in the best condition possible. We owe this duty prima facie to the donor not the recipient.

What duty then does the donating hospital intensive care owe to the future organ recipients?

Now Smith was also a country general practitioner. He had a quantity of intravenous antibiotics that were approaching their expiry date. Since Jones was taking his laptop to Africa, Smith asked Jones to also take the antibiotics and give them to a hospital. There the antibiotics might be used to save lives, rather than expire and never be used. Like the laptop, Jones packed poorly and all the antibiotics were broken.

Not only has Jones failed in his accepted responsibility to Smith, by his actions and inactions, he has probably led to deaths that might have been prevented. A much worse outcome than a school missing out on a laptop.

Perhaps Jones may not have thought about the responsibility he was accepting when he agreed to carry the antibiotics. It was a snap decision, easy enough just to take Smith's antibiotics, that's what was being asked for at that moment and not dwell overlong on the implications or consequences. This however, is the trap of moral distance: an excessive focus on the physically close or immediate, leading to a lack of attention paid to the wider consequences of one's actions.[1] Actions (or inactions) have consequences which can include harming or contributing to the deaths of patients who are separated by space and time, but are no less affected by a health care professional's decision.

But I would not like to imply that the present situation mirrors the past. We have seen an astonishing culture change in intensive care over the last decade where both ethical, legal and professional guidance has advocated for organ donation and the intensive care community has responded in turn. Many health care professionals from intensive care, and other areas of the NHS which help facilitate deceased organ donation, have accepted our role as guardians of an end of life wish to donate. Donor optimisation is an important aspect of that role.

For those who want to know more of the how, and not just the why, The MOHAN Foundation (a not-for-profit organisation set up in India to promote appropriate organ donation from deceased donors) in co-operation with NHS Blood and Transplant have launched a free downloadable App, just search for 'donor optimisation' in the Apple or Android store.

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Reference

[1] Shaw D & Gardiner D (2015) "Moral distance and distributive justice: how the increase in organ donation is helping us make better ethical decisions." *Anaesthesia*. Jan;70(1):10-13.

Case Report-Successful ABO Incompatible Kidney Transplant following use of Glycorex Immunoadsorption Column

Background

A 22 year old male patient (Blood Group O) was diagnosed with Chronic Pyelonephritis in 2005 following chronic renal failure from congenital problems. He was commenced on dialysis treatment by the renal team and had a successful cadaveric kidney transplant the following year. This graft lasted for three years before failing. The patient resumed dialysis treatment three times weekly. He had also developed very high levels of anti B antibodies and this prevented the use of a second kidney.

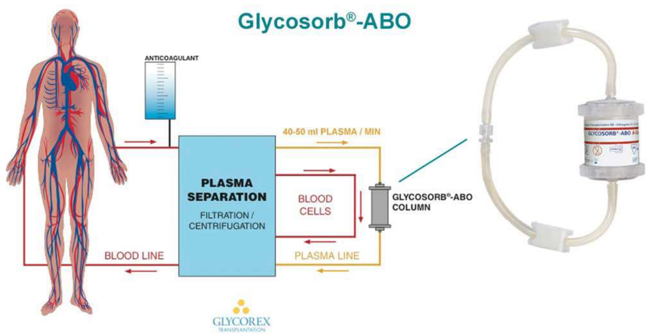
Aged 32 years in February 2015, the situation was reviewed by the Renal Team and a plan formulated to try to reduce the antibody level using a combination of conventional plasma exchanges and immunomodulation with Alemtuzumab. This would then allow a second kidney transplant to take place.

Method

The Optia machine in conventional use is manufactured by Terumo and separates whole blood into its various components using centrifugal speed and allows the plasma containing the antibody to be removed from the patient's circulation and replaced with 4.5-5% Human Albumin Solution (HAS). Anticoagulation of the circuit is obtained using Acid Citrate Dextrose Solution A (ACD-A) at a reinfusion rate of 0.8 mls per litre of blood volume. Citrate ion anticoagulates by chelating calcium ions and blocking calcium dependent clotting factor reactions. Decreases in ionized calcium can increase the excitability of nerve cell membranes and this may sometimes cause perioral and/or peripheral paraesthesias during apheresis.

Glycosorb-ABO (Glycorex column) is a bio-specific affinity column that removes the blood group-specific antibodies from the recipient in an extracorporeal blood treatment. There are other immunoadsorption columns available on the market that can also remove specific antibodies, but we evaluated glycorex on this patient.

Once connected to the Optia circuit, the plasma from the patient circulates through it, adsorbing the antibody from the patient's plasma and returning the treated plasma back through the Optia circuit to rejoin the rest of the components. There is no requirement for the use of HAS as replacement. The columns are single use only and are discarded after use.



Results

The patient was scheduled to have several plasma exchange treatments in February 2015 to reduce the anti B titre level from 128 to below eight followed by the use of Alemtuzumab and then a kidney transplant. He had six plasma exchange treatments over a ten day period but the anti B titres rebounded after each treatment and never went below a titre of 16 in spite of treatment with Alemtuzumab as well. The kidney transplant did not go ahead and the patient was resumed on dialysis treatment.

The situation was reviewed in September 2015 with the launch of the Glycorex column and the decision was taken to evaluate the use of this column in this patient. Nurse training on the use of the glycorex column in conjunction with the Optia machine was organised and went very well.