Australian and New Zealand Paired Kidney Exchange Program

Protocol 15: The Use of Imlifidase in Patients Participating in ANZKX Chains

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Imlifidase[1] currently has provisional TGA approval in Australia for the desensitisation treatment of highly sensitised adult kidney *candidates* with a positive crossmatch against a donor and is only for use in patients who are unlikely to otherwise receive a transplant.

A number of patients in the ANZKX pool fit the acceptance criteria for use of this drug and hence some participating transplanting units, following identification of a suitable donor that is thought to represent a lower immunological risk than their registered donor, may wish to use this drug to desensitise their recipient and participate in a chain through ANZKX.

Patient Selection

It is the responsibility of the transplanting unit to select patients who they deem suitable for imlifidase. Following this, the transplanting unit should notify the ANZKX team if they wish a patient to be registered in the pool as suitable for imlifidase.

The ANZKX tissue typing coordinator and local tissue typing laboratory will aim to identify a suitable matched donor to allow more detailed antibody and crossmatch testing.

If a match is identified then the ANZKX team will offer this as per the usual protocol. The time frame for acceptance of the offer will be extended to allow transplant units to discuss with their local tissue typing laboratory.

Crossmatch Protocol with Imlifidase

Standard ANZKX crossmatching and Luminex protocols remain in place for patients selected for imlifidase although additional studies are frequently performed including crossmatch and antibody studies with dilutions.

A final Luminex antibody screen will be performed less than one month prior to transplant.
In patients administered rituximab prior to transplant, transplant units should notify their tissue typing laboratory and the ANZKX team due to the impact on flow crossmatch interpretation.

Imlifidase Protocol

The transplant unit will follow their local imlifidase desensitisation protocol and the timing of administration will be based on their protocol and local service availability.

It is the responsibility of the transplant unit to organise repeat Luminex testing after the imlifidase dose as per their local protocol (for example pre-treatment and at 2 and 4 hours after imlifidase) and results of these should be sent directly to the local transplant unit clinicians.

In order to minimise risk to other participants in a chain, the drug will be administered the day prior to the transplant operation (time as per transplant unit). This is particularly important to ensure the full drug dose can be given, without a severe reaction, prior to the donor(s) commencing their surgery on the day of transplant.

The matched donor (i.e. the person donating to the recipient receiving imlifidase) will commence their surgery according to standard ANZKX protocols and timing. The decision to proceed to transplant is made by the recipient unit, based either on successful imlifidase dosing or on the repeat Luminex results.

The recipient unit should notify the ANZKX team at the following time points:

1. After the first dose of imlifidase has been given.
2. After the result of the Luminex testing has been received and it has been determined whether the unit plans to administer a second imlifidase dose.
3. If the unit has any concerns that the transplant might not proceed.

Commencement of the registered donor's (i.e. the donor who entered the program with the recipient receiving imlifidase but who is donating to someone else in the program) surgery will follow standard ANZKX protocols and times, if it is occurring on the same day.

ANZKX Responsibilities around Chain Logistics

To limit risks to other pairs in a chain with a recipient who will receive imlifidase, where possible these recipients will be matched in small, closed loops (such as 2-way or 3-way exchanges) or NDAD chains. In the case of NDAD chains, the registered donor of the recipient who is treated with imlifidase should have either no bridging or a short duration of bridging (up to 5 days).

In order to reduce the risk to the recipient receiving imlifidase, the ANZKX team should contact all units the day prior to surgery to ensure donors and recipients are well and **all pre-operative test results are available before imlifidase administration is commenced.**

Transplanting Unit's Responsibilities regarding Informing Patients Receiving Imlifidase

There are several potential risks for recipients receiving imlifidase for desensitisation in an ANZKX exchange or chain and it is important that the transplanting unit discusses these with the planned recipient.

These risks can include:

1. Risks associated with desensitisation with imlifidase, such as the risk of allergic reaction and the risk of rejection.
2. The potential that the transplant might not proceed due to either donor or recipient factors. In the case of a transplant not proceeding due to a donor factor, and if the intended recipient has already been treated with imlifidase, then it is unlikely that they will be able to be treated again with the drug in the future. If the transplant does not proceed due to a donor factor and the person's registered donor has donated, then the orphan recipient protocol would apply.
3. If imlifidase has been unsuccessful and the recipient does not proceed due to positive crossmatch or inadequate depletion of donor specific antibodies (DSA), the recipient should be aware that they will be unable to be urgently transplanted through the deceased donor program.

References

1 Idefirix® (Imlifiase) - Australian Product Information - TGA Website: https://www.tga.gov.au/sites/default/files/2024-05/auspar-idefirix-240509-pi.pdf

VERSION CONTROL			
Version	**Date**	**Author**	**Comments**
V 1.0	Sep 2024	ANZKX Team	New protocol created for the use of imlifidase in patients participating in ANZKX chains.