

IMLIFIDASE DESENSITIZATION IN CROSSMATCH-POSITIVE, HIGHLY SENSITIZED KIDNEY TRANSPLANT RECIPIENTS IN GREECE

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Imlifidase, a novel desensitization agent, is currently approved for desensitization treatment of highly-sensitized adult kidney patients (HSP) with a positive crossmatch (XM) against available deceased donors (DD). Here, we report the first three cases treated with Imlifidase in Greece.

Three HSP with cPRA \geq 97% received priority for DD-kidney transplantation after their HLA incompatible living donor donated a kidney to the national waiting list. Single-antigen bead assay, CDC and Flow XMs were performed pre- and post-Imlifidase administration.

The first patient was a 49-year-old male with preformed HLA class II donor-specific antibodies (DSA) with a cumulative MFI=35858 (cMFI) and positive B-Flow-XM. At 2h post-Imlifidase, the XM was negative. Last creatinine levels on day 440, were 1.06mg/dl. The second patient was a 43-year-old female with HLA class I&II DSA (cMFI=64158) and positive CDC and T/B Flow-XMs. Both XMs were negative at 2hours post-Imlifidase. The patient developed antibody-mediated rejection on day 4, which was successfully treated. On day 365, creatinine levels were 1.02mg/dl. The third patient was a 24-year-old female with preformed HLA class I&II DSA (cMFI=73377) and positive CDC and B-Flow-XMs. At 2hours post-Imlifidase, both XMs were negative. The patient developed hyperacute rejection. Kidney graft biopsy revealed intense IgM expression on glomerular and peritubular capillaries in the absence of IgG, findings suggestive of IgM-induced hyperacute rejection.

Imlifidase enables HLA incompatible transplantation by cleaving all IgG antibodies leading to a rapid conversion of a positive crossmatch to negative. However, other antibodies not routinely screened prior to transplantation, may have harmful effects on the renal graft.