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Emerging Therapeutic Options for Chronic Active ABMR

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Antibody mediated rejection (ABMR) is a unique and severe form of allograft rejection. The development of donor-specific antibodies (DSAs) after transplantation leads to chronic ABMR and transplant glomerulopathy (TG), resulting in the majority of allograft losses in Japan. The pathophysiology of chronic ABMR suggests a primary role of DSAs, B cells and plasma cells capable of producing DSAs. There are no approved definite treatments for chronic ABMR. To suppress these B cell immunity as well as to reduce the produced antibodies in chronic ABMR, many strategies including IVIg, rituximab and plasmapheresis have been proposed with some successes. However, post-transplant ABMR still remains unsolved problem. We have just started high dose IVIg treatment for the patients with chronic ABMR. Among 682 patients who underwent kidney transplantation between 2014 and 2020 at department of Urology of Tokyo Women's Medical University, 40 patients who were pathologically diagnosed with acute/chronic-ABMR were included in this retrospective study. ABMR was diagnosed at a median of 81 days after transplantation. Median serum creatinine (s-Cr) level and estimated glomerular filtration rate (eGFR) before treatments were 1.56 mg/dl and 36.1 ml/min/1.73m^2, respectively. Thirty-five patients (88%) received steroid pulse therapy, 35 patients (88%) received rituximab, 12 patients (30%) received plasma exchange, 2 patients (5%) received eculizumab, and 38 patients (95%) received high dose IVIg. Treatments protocol for chronic ABMR was not still standardized in our department, and was decided individually in our meeting, considering from each pathological findings and patient's clinical background. Median s-Cr level and eGFR after the treatments were 1.35 mg/dl and 40.4 ml/min/1.73m^2, respectively, which were significantly improved compared with those before the treatment. Meanwhile, 22 (55%) patients developed in chronic ABMR with sever IFTA. Multivariable Cox proportional hazard regression analysis showed that age of the donor and t-score of Banff classification before the treatments were significantly associated with worsening of chronic ABMR with severe IFTA.
In this session, I would give a talk about recent strategies for chronic ABMR at Tokyo Women's Medical UNiversity Hospital.