Assessment of the incidence and outcomes of lymphomas in a single centre post renal transplantation

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Introduction:
Post-transplant lymphoproliferative disorder (PTLD) is the second most common malignancy in transplant recipients after skin cancers. They are described more frequently in solid organ transplantation than post-haematopoietic stem cell transplantation due to the need for lifelong immunosuppression. In order to reduce our patients’ long term immunosuppressant burden, we withdraw steroids between one and twelve weeks post transplantation and avoid the use of more than two immunosuppressive agents where possible. We hope these strategies will reduce dysregulation of the immune system and/or activation of viruses such as Epstein-Barr (EBV) contributing to malignancies. Here we assess the current incidence and outcomes in our unit.

Methods:
Renal transplant recipients diagnosed with lymphoma following transplantation in a single centre between 2012 and 2019 were identified. This work was carried out as a retrospective review of effected patients’ electronic and paper records as well as direct liaison with the haematology department. Notes were reviewed for histology, EBV status, staging, treatment plans, outcomes following treatment, and associated morbidity and mortality. Patients in the cohort who were exposed to additional immunosuppression beyond protocol transplant immunosuppression were identified.

Results:
Of 586 renal transplant recipients followed up between 2012 and 2019, twelve were diagnosed with lymphoma (2%). 58.3% of these were exposed to additional immunosuppression due to pre-existing disease, high immunological risk and/or rejection. At lymphoma diagnosis, recipients were 1.7 to 313.5 months post-transplantation (mean 128.1), and aged between 27 and 72 years (mean 56.3), with a male female ratio of 9:3. Eight recipients were diagnosed with high grade lymphoma, five of whom had associated histological EBER positivity or peripheral EBV viral load. One patient was diagnosed with very high grade lymphoma, two with low grade lymphoma and one with anaplastic T cell lymphoma. Six patients had their transplant immunosuppression changed at diagnosis and three had a reduction in immunosuppression dose. Therapies included EPOCH, R-EPOCH, CODOXM, Rituximab and Obintuzumab. Of the patients with high grade lymphoma, one died due to other medical co-morbidities prior to treatment and one progressed through first line treatment and died on second line therapy. All other patients achieved remission with one relapse at 4 years. At the time of analysis all living patients have remained dialysis independent.

Summary:
The incidence of PTLD appears to be similar in our cohort of patients to the incidence that is widely reported in the literature (1-4.5%). Patients with high grade lymphoma who are well enough to receive treatment have a good prognosis. In this cohort, all surviving patients have maintained functional grafts. Patients with a higher immunosuppressant burden, even if only temporarily, may be at increased risk of developing PTLD. This could indicate a need for increased vigilance in anticipating PTLD in those receiving immunosuppression increments, and targeted monitoring and surveillance of higher risk category patients may be warranted. We plan to extend this review across our network sharing the same immunosuppression protocol.