Practicing Renal Transplant Pathology in a Developing Country: Challenges and Opportunities

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Renal allograft biopsy plays a crucial role in the diagnosis and management of renal allograft dysfunction in renal transplant recipients [1,2]. With the exponential rise in the number of renal transplants taking place throughout the world, the renal transplant pathology has achieved a pre-eminent role among the multidisciplinary team caring for these patients. Renal transplant pathology is also a rapidly evolving subspecialty of renal pathology. Prior to 1991, there was a lack of standardized terminology and criteria for the pathological diagnosis of renal transplant lesions [3,4]. With the promulgation of Banff working formulation for the diagnosis and categorization of rejection, it has become a major standard setting instrument for the interpretation and reporting of renal allograft pathology throughout the world [5]. The first Banff meeting took place in 1991 and the first detailed classification was published in 1993 [6]. Since then, regular meetings with periodic updates of the classification at two yearly intervals have lead to some major modifications of the original schema [7-13]. However, the basic construct has remained the same over the years. The first major modification took place in 1997 with the merger of two major classifications widely used at that time, both in clinical practice and in antirejection therapy trials; the Banff 93-95 classification and the National Institute of Health (NIH)-sponsored collaborative clinical trials in transplantation (CCTT) modification of this classification [7,14]. Specimen adequacy criteria were made more stringent, grades of rejection were changed to types of rejection, and antibody mediated rejection (AMR) was better defined. Numerous independent studies throughout the world have proved the clinical validity and fair reproducibility of the Banff 97 classification [5]. The schema has also been endorsed by Food and Drug Administration (FDA) and other regulatory agencies for use in the international clinical trials of new immunosuppressive/antirejection agents; the Banff 97 classification in developing countries. The procurement of C4d and SV40 large T antigen antibodies is either difficult or incurs prohibitive cost. EM is not available in majority of the renal transplant centers in low income countries. The access to molecular and omics-technologies is also beyond the reach of most laboratories in underdeveloped countries. Even good quality processing and staining reagents are not available. Last, but not the least, the trained manpower, including both the transplant pathologists and technologists, is not readily available in most centers in the developing countries.

Thus, the practical application of updated Banff classification in developing countries not only poses the above mentioned challenges but also offers some opportunities. The later include an active collaboration between transplant centers in the developing countries with those in the developed world [15]. Areas of collaboration may include imparting training to the relevant medical personnel, supply of reagents and offer of free diagnostic service for the difficult or problematic cases. In this context, there is a long legacy in the field of renal pathology of providing free and humanitarian services to the low-income countries [16]. This option is increasingly becoming difficult to fulfill these days [16]. As an alternate option, developing countries can establish national reference centers for renal transplant pathology where specimens from all over the country can be sent and studied by the state of the art methodology available in developed countries. This will help in the achievement of the ultimate goal of Banff schema, which is the optimal patient care.

References


