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The role of MHC molecules in immunology and approaches to transplantation

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MHC molecules were crucial to the discovery of alloimmunity and their structure and function were investigated in detail approximately 25 years ago. Interest in the roles of these highly polymorphic molecules has waned, the reason for this being that modern induction therapy and immunosuppression has been associated with successful transplantation even in fully mismatched allografts. However the resurgence of interest in the development of tolerance has given new life to the role of MHC molecules as they are certainly involved. The author will present a review of MHC and tolerance over the past 25 years, including several recent advances of which clinicians may not be aware. The author will also present a theory first described 14 years ago, which has since correctly predicted several of the advances mentioned above. This has recently been updated with an extension that provides a good explanation for the mechanism of inhibitory signaling and tolerance.

Biography

Derek Gray trained in Oxford UK in vascular and general surgery specializing in transplantation followed by 5 years as transplant physician. His research interests include islet transplantation and transplant immunology. Author of more than 100 papers in refereed journals.

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