ONE LAMBDA
A Thermo Fisher Scientific Brand

MMDx Kidney

Novel Technology Has Made It Possible To Diagnose A New Clinical Phenotype Of Rejection Called Early Antibody Mediated Rejection, With Significant Therapeutic Implications For Renal Allograft Survival.

Key Takeaways

- The Molecular Microscope® Diagnostic System for Kidney (MMDx® Kidney) can diagnose antibody-mediated rejection (AMBR) when histopathology is discordant with the clinical scenario.
- There is still no FDA-approved treatment for ABMR.
- It is suggested that identifying early ABMR could lead to intervention and the prevention of graft loss due to chronic active ABMR.

Summary Statement

In two cases with graft dysfunction and elevated cfDNA but normal or borderline biopsy findings, **MMDx Kidney identified early AMBR, which responded to treatment.** MMDx Kidney in addition to local histopathology findings gives clinicians increased confidence in the diagnosis and treatment of allograft dysfunction. It is suggested that early diagnosis and treatment will improve outcomes.

Summary

The authors present the cases of two recent kidney transplant recipients. The first had stable kidney function until a reduction in immunosuppression because of bacteremia. Although there was no DSA, the creatinine rose from 1.1 to 1.28 mg/dL and the cfDNA from 0.41 to 1.3%.

A biopsy was performed that showed mild tubulitis only in areas of fibrosis and one glomeruli with focal mesangiolysis (no rejection). The results for MMDx Kidneys showed early ABMR.

The patient was treated with intravenous immunoglobulin (IVIg). The creatinine remained stable and cfDNA reduced to 0.63%, suggesting response to treatment.

The second patient had stable graft function with creatinine of 1.0 to 1.1 mg/dL but cfDNA level was 1.6%. Because the patient was stable, the cfDNA was repeated one month later and measured at 3.9%.

The biopsy showed borderline T cell-mediated rejection (TCMR) and mild peritubular capillaritis. The patient was treated with pulsed methylprednisolone and IVIg, and the cfDNA level reduced to 1.6%.

The authors comment on the traditional view of acute and chronic ABMR as well as the disappointing outcomes for patients with chronic active ABMR, even when treated. By identifying subclinical or early ABMR, the authors suggest that **early diagnosis and intervention of the most common cause of late allograft failure could improve outcomes.**

Reference

Sharma, R., Wolff, J., & Wilpula, E., Experimental and Clinical Transplantation (2022) 10.6002/ect.2021.0489

Learn more at **go.1lambda.com/mmdxkidney**
or email us at **1lambda-mmdx@thermofisher.com**

Publication Link

MMDx and Molecular Microscope are registered trademarks of Transcriptome Sciences Inc.

MMDx Heart and MMDx Kidney are tests that were developed and validated by Kashi Clinical Laboratories, Inc. The laboratory developed tests are used for clinical purposes by the CLIA-certified laboratory performing the test. These tests have not been cleared or approved by the US FDA or CE marked in the EU as an in vitro diagnostic test.

© 2022 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified.