

**EVALUATION OF RELATIONSHIP BETWEEN CD68-POSITIVE  
MACROPHAGES & CLINICAL AND LABORATORY  
PARAMETERS IN KIDNEY  
TRANSPLANT RECIPIENTS WHO EXPERIENCED TRANSPLANT  
KIDNEY  
BIOPSY**

Burak Sayin<sup>1</sup>, Aysen Terzi<sup>2</sup>, Handan Ozdemir<sup>2</sup>, Ozgur Kutuk<sup>3</sup>, Turan Colak<sup>1</sup>, Emre Karakaya<sup>4</sup>, Mehmet Haberal<sup>4</sup>

<sup>1</sup>Nephrology, Baskent University Faculty of Medicine

<sup>2</sup>Pathology, Baskent University Faculty of Medicine

<sup>3</sup>Immunology, Baskent University Faculty of Medicine

<sup>4</sup>General Surgery, Baskent University Faculty of Medicine

# Introduction & Aim

- Kidney transplantation is the best treatment option in end-stage renal disease patients that improve both life quality and allograft survival
- Transplant biopsy is the critical tool to evaluate the immunological response and risk of rejection in kidney transplant recipients
- We aimed to investigate the **relationship** between presence of **CD68 positive macrophages** with **rejection and graft survival** in biopsies of kidney transplant recipients.

# Materials & Methods

- We evaluated the possible relationship between clinical and laboratory parameters with biopsy results, biochemical parameters, immunosuppressive therapies, and CD68 positive macrophages that has been detected in transplant biopsies in 40 kidney transplant recipients who received allograft biopsy between June 2022 and June 2023.

# Results

- A total of 40 patients (10 female and 30 male, 25% and 75% respectively) had a mean age of  $39,90 \pm 15,43$  years has been included to our study
- Mean duration from transplantation to biopsy date was  $85,25 \pm 108,19$  months
- The increase in number of CD68 positive macrophages have been shown to be associated with both acute cellular rejection ( $p < 0.007$ ) and antibody mediated rejection ( $p < 0.02$ ) and also with TMA ( $p < 0.15$ )
- Number of CD68 positive macrophages in glomeruli are found to be significantly associated with both global sclerosis and acute rejection episodes.

# Conclusion

- Macrophages are important immune system cells who have a central role in both acute and chronic rejection episodes
- We showed that increase in the number of CD68 positive macrophage in allograft biopsies is significantly associated with cellular rejection, antibody mediated rejection and trombotic microangiopathy
- Therapies that are targeting macrophage regulation primarily and immuno-modulation of macrophages are needed in allograft rejection strategies