THE ROLE OF CXCL11 AND CXCL13 GENE EXPRESSIONS ON ALLOGRAFT FUNCTION IN KIDNEY TRANSPLANT RECIPIENTS

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Aim

• To evaluate the relationship between CXCL 11 and CXCL13 gene expressions before graft damage occurs in relation to graft function in patients underwent renal transplantation

Patients and Methods

• April 2013 and March 2019, n=91 patients (male=53, female=38)
  – Live-related renal transplantation patients
  – Mean follow-up was 46.8 months (at least 3 months)
• CXCL11 and CXCL13 gene expressions were evaluated in urine samples taken preoperatively and at postoperative 1st day, 7th day, 1st month and 3rd month
• Patients divided four group; stable graft function (SGF), rejection group (RG), acute tubular necrosis (ATN), delayed graft function (DGF)

Results

- CXCL11 expression levels were 4-fold (p<0.001) and 5.2-fold (p<0.001) higher in RG at the postoperative 1st and 7th day compared to SGF
- CXCL13 expression levels were 3.5 (p<0.001) and 4-fold (p<0.001) higher in RG compared to SGF at the postoperative 1st and 7th day
- CXCL11 and CXCL13 gene expression levels at the 1st month (p <0.05) after RT were significantly higher in RG compared to SGF
- In ATN group, CXCL11 and CXCL13 expression levels were 3.5-fold and 2-fold higher compared to SGF group at the only postoperative 1st day
- In addition, one month after RT, we found that CXCL11 gene expression level was approximately 4 times higher in patients who had BK virus in their follow-up.
Follow-up of allograft function after RT is of utmost importance.

When all the findings are evaluated, CXCL11 and CXCL13 gene expression levels are closely related to allograft rejection.

- It can be assumed that urine or serum protein levels of these chemokines can be used as biomarkers in predicting allograft rejection.