

SECRETION OF PRO-INFLAMMATORY IL-1 β IN CHILDREN WITH CHRONIC GLOMERULONEPHRITIS, DEPENDING ON THE GENE POLYMORPHISM

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Objectives:

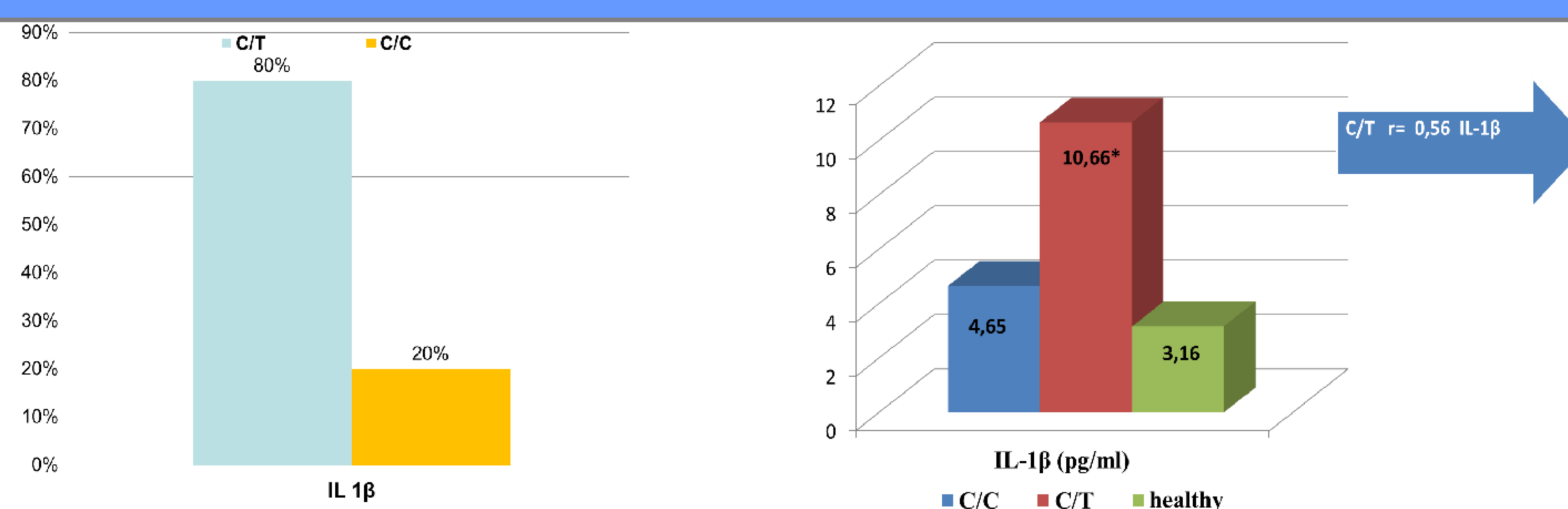
Chronic glomerulonephritis is considered as immunocomplex disease in which monocytes are activated and secreted a wide variety of biologically active compounds into the blood. It is known that in the development of glomerular injury and nephrosclerosis great role belong to pro-inflammatory cytokines, IL-1 β . IL -1 β is considered to be one of the factors of progression of chronic glomerulonephritis.

The aim of our work was to determine the levels of proinflammatory cytokines IL -1 β in children with chronic glomerulonephritis, depending on the gene polymorphism.

Methods:

64 child patients with chronic glomerulonephritis, 11,73 \pm 3,63years were recruited into the study from 2010 to 2012. Our study included children with levels of glomerular filtration rate > 90 ml/min., the first stage of CKD. Genetic polymorphism and serum IL1 β were evaluated

Results:



Analyzing the contents of IL -1 β in serum of children with chronic glomerulonephritis, we found that IL -1 β was significantly increased in children with persistent changes of urinalysis (gross hematuria, proteinuria) and with progression of glomerulonephritis compared with remission and with healthy children ($p < 0.05$). The presence of C/T genotype is associated with increased production of interleukin-1 β in serum, compared with children with genotype C/C ($p < 0.05$). A strong direct relationship between the level of IL-1 β in serum and C/T allelic polymorphism of the gene IL-1 β (-511) was found ($r = +0,56$) ($p < 0.05$). This indicate an increased level of secretion of this interleukin in the presence of C/T genotype of IL -1 β .

Conclusions:

We demonstrated for the first time that pro-inflammatory cytokine IL1beta is independently associated with C/T allelic polymorphism of the gene IL-1 β (-511) in children with glomerulonephritis. Genetic polymorphism of genes of interleukin can be a new marker of progression of chronic kidney disease.

References:

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