

Abstract

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POSTER PRESENTATIONS

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TRANSFORMING GROWTH FACTOR-B1 POLYMORPHISM IS NOT ASSOCIATED WITH CHRONIC GRAFT DISEASE: EVIDENCE FROM A META-ANALYSIS

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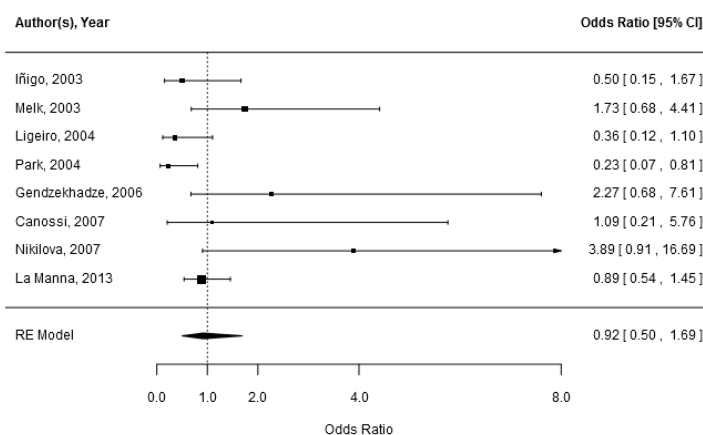
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Kidney transplantation has been recognised as the optimal treatment choice for most end stage renal disease patients and the increase of allograft survival rates is achieved through the refinement of novel immunosuppressive agents. Chronic Graft Disease (CGD) is a multifactorial process that likely includes a combination of immunological, apoptotic and inflammatory factors. The application of individualised immunosuppressive therapies will also depend on the identification of risk factors that can influence chronic disease. Despite being the subject of several independent studies, investigations of the relationship between transforming growth factor-b1 (TGF-b1) polymorphisms and kidney graft outcome continue to be plagued by contradictory conclusions. The codon 10 TT genotype is known as high-producer type of TGF-b1 cytokine but as gene expression is regulated by multiple factors, it is difficult to figure out the mutual action of different genotypes and even their combined effects. In this meta-analysis we collect all the relevant studies to further clarify the association of TGF-b1 codon 10 genotypes and CGD. Relevant published data

were retrieved through Medline pertaining to kidney transplant outcome and TGF-b1 polymorphisms. Odds ratios (OR) with 95 % confidence intervals (CI) were used to assess the strength of the association. The Z test was used to determine the significance of the pooled OR. Statistical heterogeneity was measured using the Q statistic. A total of 8 studies, including 309 CGD transplanted cases and 676 transplanted controls with stable graft function (SGF), were collected. For TT vs. TC or CC TGF-b1 codon 10 genotypes data were combined using the random-effects model (Q = 16.06; I² = 62%). For the total population, we do not found a statistical significant association of the codon 10 TT genotype and CGD, when compared with the SGF group: effect summary OR = 0.92; 95% CI = 0.50-1.69; p = 0.78. TGF-b1 is a multifunctional cytokine with immunosuppressive and fibrotic properties, produced by many cell types, including T lymphocytes, monocytes, vascular endothelium and fibroblasts. In this meta-analysis we didn't find statistical evidence for the association of TGF-b1 codon 10 genotypes and CGD.

Forest plot for random effects model



REFERENCES

- Iñigo P, Lario S, Campistol JM, et al. Papel de los polimorfismos del gen del transforming growth factor β 1 en el desarrollo de nefropatía crónica del injerto en pacientes trasplantados renales. *NEFROLOGÍA*. 2003; XXIII (4):312-20
- Melk A, Henne T, Kollmar T, et al. Cytokine single nucleotide polymorphisms and intrarenal gene expression in chronic allograft nephropathy in children. *Kidney Int*. 2003;64(1):314-20.
- Ligeiro D, Sancho MR, Papoila A, et al. Impact of Donor and Recipient Cytokine Genotypes on Renal Allograft Outcome. *Transplant Proc*. 2004;36(4):827-9
- Park JY, Park MH, Park H, et al. TNF-a and TGF-b1 gene polymorphisms and renal allograft rejection in Koreans. *Tissue Antigens*. 2004;64(6):660-6
- Gendzekhadze K, Rivas-Vetencourt P, Montano RF. Risk of adverse post-transplant events after kidney allograft transplantation as predicted by CTLA-4 +49 and TNF-alpha -308 single nucleotide polymorphisms: a preliminary study. *Transpl Immunol*. 2006;16(3-4):194-9
- Canossi A, Piazza A, Poggi E, et al. Renal Allograft Immune Response Is Influenced by Patient and Donor Cytokine Genotypes. *Transplant Proc*. 2007;39(6):1805-12
- Nikolova PN, Ivanova MI, Mihailova SM, et al. Cytokine gene polymorphism in kidney transplantation-impact of TGF-beta 1, TNF-alpha and IL-6 on graft outcome. *Transpl Immunol*. 2008;18(4):344-8
- La Manna G, Cappuccilli ML, Capelli I, et al. The impact of apoptosis and inflammation gene polymorphisms on transplanted kidney function. *Ann Transplant*. 2013;18:256-64