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IMPACT OF HLA-G POLYMORPHISM ON THE OUTCOME OF ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION FOR METASTATIC RENAL CELL CARCINOMA

Crocchiolo R[1], Ringden O[2], Bay JO[3], Blaise D[4], Omasic B[2], Mazzi B[1], Picard C[5], Trinca S[1], Barkholt L[2], Peccatori J[1], Gregori S[6], Amodio G[6], Fleischhauer K[1], Ciceri F[1] and Bregni M[1]

[1]San Raffaele Hospital, Italy
[2]Karolinska University Hospital, Sweden
[3]CHU Clermont Ferrand, France
[4]Aix-Marseille University, France
[5]San Raffaele Telethon Institute for Gene Therapy, Italy

Renal cell carcinoma (RCC) is particularly sensitive to immune intervention. HLA-G, a non-classical HLA class I molecule with immunomodulatory properties, has been studied with regard to outcome after hematopoietic stem cell transplantation (HSCT), in particular the 14 bp insertion/deletion polymorphism in the 3' untranslated region. Here we analyzed n=56 patients affected by metastatic RCC who received an allogeneic HSCT between 1998 and 2006 in Milano, Marseille, Clermont-Ferrand and Stockholm. The 14 bp polymorphism was analyzed in correlation with overall survival (OS), PFS, acute and chronic GvHD. With a median follow-up of 13 years, a trend towards better outcome was observed when homozygosity for the 14bp-del allele was present: multivariate hazard ratio was 0.50 (95% confidence interval (CI): 0.23-1.13; P=0.10) and 0.57 (95% CI: 0.26-1.26; P=0.17) for OS and PFS, respectively, when 14bp-del/del was compared with 14bp-ins/X. Further exploratory analysis revealed a significant association between T/C at p3003 and improved OS (P=0.05) and PFS (P=0.006) compared with T/T. To our knowledge this is the first study on HLA-G and outcome after HSCT for a solid malignancy. After a coordinated multicenter study, we found that the more tolerogenic polymorphisms (14bp-del/del) is associated with better PFS and OS. The finding on p3003 deserves further investigation.

roberto.crocchiolo@gmail.com