

Applying Bonferroni and other methods to correction

Bonferroni correction is an effective statistical method to reduce falsely significance for multiple comparisons. We applied the method to evaluate the significance level of our previous 3 times research results, adjusted by Bonferroni correction, the significance level was $0.017(0.05/3)$, a little lower ($p=0.004$) than that in this study ($p=0.021$), and more than those in our previous studies ($p<0.001$). Because of the high stringency of the Bonferroni correction, we also analysed the significance level of our datasets to correct them by the other three methods. Such as: (1) by the first method used from Legendre in 1988, we got the value of the significance level ($p= 0.021$) [Legendre P. & Legendre L (1998). *Numerical Ecology (2nd English Edition)*. Elsevier, Amsterdam.]. Throughout the second method, the Bonferroni step-down (Holm) correction, we got the same result ($p=0.021$) [Holm, S (1979). *A simple sequentially rejective multiple test procedure. Scandinavian Journal of Statistics*, 6: 65-70.]. The third method is the permuted correction, by Haploview software 3.32 with 3000 times permutation, and the result of the significance level is $p=0.049$. We evaluated the significance level by 4 methods, including the Bonferroni correction. Nearly all analysis results support our study and the evidences from biologic studies of TNF- α support that the SNP variance is associated with AS.