Androgen receptor

Some evidence about the role of the androgen receptor (AR) in glioblastoma pathogenesis has been reported, but no study has focused on measuring the activity of the AR in GB.

Molecular and clinical data from The Cancer Genome Atlas database were used. The AR-expression at the protein level was obtained from reversed-phase protein array (RPPA) assays. The AR activity was determined by calculating the AR-score, an index calculated by using the expression (at RNA level) of 13 androgen-responsive genes. Univariate and multivariate Cox regression analyses were performed. Finally, a correlation analysis was conducted between protein expression data and the AR score.

Two hundred and thirty-three patients were included. RPPA data showed a mean AR abundance of 0.027(Statistical Deviation = 0.38) in GB. The univariate Cox regression analysis showed that the AR-Score was associated with a worse prognosis (Hazard Ratio (HR) = 1.070) while the AR-expression did not show any relationship with survival (HR = 0.869). The association of the AR-score with worse overall survival (OS) was still significant in the multivariate analysis (HR = 1.054). The highest correlation coefficients between the AR-score and RPPA were identified in a group of proteins involved in apoptotic process regulation.

GB patients with a high AR activity present a worse prognosis in terms of OS. Thus, the activity of the AR may have a pathogenic role in GB. In this regard, the activation of the AR in GB may be associated with a dysregulation of apoptosis [1)].

1)
Fariña-Jerónimo H, de Vera A, Medina L, Plata-Bello J. Androgen Receptor Activity Is Associated with Worse Survival in Glioblastoma. J Integr Neurosci. 2022 Apr 22;21(3):86. doi: 10.31083/j.jin2103086. PMID: 35633167.