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Fragile X Syndrome Protective for Subsequent Cancers

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Fragile X Syndrome (FXS) is a key inherited basis of intellectual disability (ID). It initiated by an expansion of over 200 CGG (cytosine-guanineguanine) repeats in the 5 translated region (UTR) of the fragile X mental retardation 1 (FMR1) gene and consequently, the lack of fragile X mental retardation protein (FMRP) in the neurons cause's developmental abnormalities in the brain. Although one of the largest studies on cancer risk in patient with ID demonstrated increased risk of leukaemia and gastrointestinal cancers, few existing articles in FXS tell us about decrease of cancer in these patients everyday many mechanisms are described involving in FMR1 mRNA and FMRP interaction with other genes, and new information about cancer oncogenesis of FXS. This review summarizes the available articles and provides an overview of some databases contain data pertinent to cancer in this field. The role of repeat expansion size as a key determinant of cancer risk is not fully clear. Nucleotide repeat expansions are longer in myotonic muscular dystrophy (MMD) patients compared with Huntington disease or fragile X patients. Gadalla et al (2011) investigation on 104 patients with MMD from the Swedish and Danish patient registries revealed they were at increased risk of cancer both overall and for selected anatomic sites. In contrast, Coarelli et al study on 372 consecutive patients with Huntington disease (HD) and spinocerebellar ataxia (SCA) in France demonstrated a decreased cancer rate in PolyQ diseases despite high incidence of risk factors. Intriguingly, skin cancer incidence was higher, suggesting a crosstalk between neurodegeneration and skin tumorigenesis. Ricci et al, study on 147 Italian women, free of cancer or affected by breast and/or ovarian cancer, suggested that FMR1 CGG repeat test is not a candidate pre-screening tool for identifying women with a high probability of being carriers of BRCA mutations. Obviously these figures will be affected by the overall age range in the study cohort and cancer types, and it is probably not possible to make a firm comment on either until a suitably stratified and diagnosed population is subject to study. A comprehensive review of FMR1gene and cancer type is not as yet available. FMRP, as multipotential factor, is a component of messenger ribonucleoproteins (mRNPs). These proteins contain two types of RNA- binding motif: two ribonucleoprotein K homology domains (KH domains) and a cluster of arginine and glycine residues (the RGG box). RGG sequences are substrate recognition sites for protein arginine methyl transferases (PRMTs). These motifs and the proteins that harbor them have been linked to several human diseases, such as cancer and neurological disorders. With all we would look forward to expand and welcome a wide range of research people to utilize this Journal of Neurological disorders as a step in plat form by sharing your experience so as to raise quality improvement and improve our relationship to a large extent your work truly enhance the reputation of the journal. Finally I want to offer the gratitude to all the creators and analytical people and happy to welcome the commenting the Physicians, I extend my kind request to grand support to all. Only team work to raise the impact factor of the Journal and useful humanity.

Biography

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