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Brief Review on Some Neurological Diseases Which Have Association with Trinucleotide Repeat Sequences

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Mini Review

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Abstract

Trinucleotide repeat sequences can be seen in some neurological diseases. This study will briefly review some of these neurological diseases and the associated trinucleotide repeat sequences.

Keywords: Trinucleotide Repeat Sequences; Neurological Diseases

Introduction

There are some neurological diseases which have association with trinucleotide repeat sequences. This is a brief review on some of these pathologies.

Body

In Friedrich's ataxia, GAA repeat sequence can be seen. Normal number of repeats would be 7 to 22 and the mutant number of repeats would be more than 200. The related gene would be Frataxin which is located on 9q13 and the inheritance pattern would be autosomal dominant. In Huntington's disease the repeat sequence would be CAG with 6 to 34 normal repeats and more than 35 mutant repeats [1]. Huntingtin gene with the 4p16 location would be the relevant gene and the inheritance pattern would be autosomal dominant. Myotonic dystrophy with CTG repeat sequence and 5 to 37 normal repeats and more than 50 mutant ones and the DMPK gene which is located on 19q13 and the autosomal dominant inheritance pattern is another example of such diseases [2]. In type one of Spinocerebellar ataxia the CAG repeat sequence can be seen. The normal repeats number would be 6 to 39 and the mutant repeats number would be more than 40. The relevant gene is Ataxin located on 6p22-23 and the inheritance pattern would be autosomal dominant [3,4]. In Fragile X mental retardation the CGG repeat sequence would be seen with 5 to 52 normal repeats and more than 200 mutants repeats. FMR1 is the relevant gene which is located on Xq27 and the inheritance pattern would be X-linked dominant.

Conclusion

It was a brief review on some examples of neurological diseases which have association with trinucleotide repeat sequences. Having knowledge about these pathologies can be important in both basic and clinical settings.

Acknowledgement

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Conflict of Interest

None

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