GSC Advanced Research and Reviews

eISSN: 2582-4597 CODEN (USA): GARRC2

Cross Ref DOI: 10.30574/gscarr

Journal homepage: https://gsconlinepress.com/journals/gscarr/

(CASE REPORT)

The use of antibiotic drugs associated with the onset of symptoms of Spinocerebellar Ataxia disease

Gustavo Simões Carnivali *

Department of Biology, Universidade Federal de Minas Gerais (UFMG), Brazil.

GSC Advanced Research and Reviews, 2022, 12(01), 145–147

Publication history: Received on 14 June 2022; revised on 20 July 2022; accepted on 22 July 2022

Article DOI: https://doi.org/10.30574/gscarr.2022.12.1.0189

Abstract

This case report reports the onset of symptoms of a disease. Spinocebellar Ataxia (unknown type) is studied, a genetic, neurodegenerative disease that commonly starts in adulthood. A case is reported in which the onset of symptoms of this disease, in the patient, possibly starts after the ingestion of a set of antibiotics in a short period of time. Several works in the literature report the onset of symptoms of this disease by the use of antibiotics. This study reaffirms previous studies.

Keywords: Spinocerebellar Ataxia; Antibiotics; Start; Case report

1. Introduction

This case study studies the onset of symptoms in a patient with Spinocerebellar Ataxia. The disease in question (Spinocerebellar Ataxia) is one in a group of diseases named Ataxias, they are all characterized by the gradual loss of muscular abilities, such as the ability to walk or write, and can also influence secondary systems such as vision or the digestive system [1 - 3]. It is estimated that there are 1 to 5 cases of ataxia per 100,000 population worldwide and 37 different types of known ataxias [4, 5]. The symptoms of Ataxia commonly start in adulthood [3]. In the family of the patient studied at close to 30 years of age. However, because it is a genetic disease, symptoms can occur at any time in the carrier's life. For this reason, it is common to try to find the reason, in addition to age, for which symptoms of this and other diseases start. In this context, one hypothesis is that the use of drugs classified as antibiotics may be associated with the onset of symptoms of this disease [6 - 10]. In this study, a specific case is analyzed. The symptoms of Spinocerebellar Ataxia are initiated, in the studied patient, by taking a large set of antibiotics, in a short and unusual period of time. This reinforces the idea mentioned above, that the symptoms of Spinocerebellar Ataxias diseases can start with the use of antibiotics.

2. Case Report

The patient studied was, at the time of writing this article, 28 years old, defined as white, male and Brazilian of Brazilian origin. The same reports that he does not have any disease that can resemble Ataxia, also reports that he does not have a disease associated with the onset of Ataxia symptoms. The patient's mother, who died, also had the disease, as did his deceased maternal uncle and maternal grandfather. The patient's family members did not perform the genetic exam, making it impossible to specify the type of ataxia present in the family. However, all had clinical confirmation of the case, presenting the symptoms to specialist professionals. Specifically, the patient studied performed the tests named: Magnetic Resonance and Computed Tomography. Both exams indicated the possible existence of Spinocerebellar Ataxia, both exams presented the common origin of the symptoms (i.e., slight reduction of the cerebellum). The results

* Corresponding author: Gustavo Simões Carnivali
epartment of Biology, Universidade Federal de Minas Gerais (UFMG), Brazil.

of the specified exams in Portuguese can be found attached to this article. The patient, specified, reports that he did not feel the symptoms common to the disease for more than 3 years, in relation to the date of writing of this article. The patient also reports the onset of symptoms after treatment for an unspecified illness. Among other drugs taken, the patient took, not together, in the period of 2 months (i.e., approximately 60 days), the 3 drugs, characterized as antibiotics, reported below. The patient took the 3 drugs in the order they are presented.

2.1. Amoxicillin

Amoxicillin is a penicillin derivative used for the treatment of infections caused by gram-positive bacteria, in particular streptococcal bacteria that cause upper respiratory tract infections [11]. Amoxicillin was taken by the patient for a total period of 10 days, 2 tablets of 500 mg per day.

2.2. Azithromycin

Azithromycin is a macrolide antibiotic used to treat a variety of bacterial infections [11]. Azithromycin was taken by the patient for a total period of 3 days, 1 tablet of 500 mg per day.

2.3. Amoxicillin + Potassium Clavulanate

Amoxicillin variation. Amoxicillin + Potassium Clavulanate was taken by the patient for a total period of 10 days, 3 tablets of 500 mg per day.

3. Conclusion

This case report presented the specific case of a man with Spinocerebellar Ataxia disease. The disease, common to other members of his family, had a different onset in him. This study therefore reports how the onset of symptoms occurred in this patient. This report can support and help to reaffirm the hypothesis that reports how the symptoms of this disease can start. Naturally, this report may also allow a better understanding of this disease, indirectly supporting several other studies that created new hypotheses about it. The author of this study indicates that new case reports, with the same or different objective, be written and published. It is also indicated that other studies, in addition to case studies, be carried out on this disease, in order to understand different processes in it and in other diseases.

Compliance with ethical standards

Acknowledgments

We acknowledged to FAPEMIG, Capes and UFMG.

Statement of informed consent

The consent was obtained from participant included in the study.

Permissions

This report as the publication of the attached exams were authorized by the patient studied.

References

[1] Bhandari, Jenish, Pawan K. Thada, Debopam Samanta. Spinocerebellar ataxia. StatPearls [Internet]. StatPearls Publishing. 2020; © 2020 [cited 2020 July 26]. Available from https://www.ncbi.nlm.nih.gov/books/NBK557816/

[2] Lloyd, Deanah. At-risk individual's perspectives of Spinocerebellar Ataxia (SCA) Presymptomatic Testing (PT) [MS Thesis]. Faculty of Health Sciences. 2021.

[3] Brooker, Sarah M., et al. Spinocerebellar ataxia clinical trials: opportunities and challenges." Annals of clinical and translational neurology. 2021; 8(7): 1543-1556.

[4] Paulson, Henry L. The spinocerebellar ataxias. Journal of neuro-ophthalmology: the official journal of the North American Neuro-Ophthalmology Society. 2009; 29(3): 227.

[5] Carnivali, Gustavo. Machine Learning Method to Differentiate Ataxias. International Journal of Applied Mathematics and Machine Learning. 2021; 15: 53-67.

[6] Matibag JL, CC Diesta, E Uematsu. Correlation of trinucleotide repeat with SARA score, age of onset and disease duration of genetically-positive spinocerebellar ataxia 2 Filipino family." Parkinsonism & Related Disorders. 2020; 79: e111.

[7] Wantaneeyawong C, S Tanprawate, A Nudsasarn. Metronidazole induced cerebellar ataxia: first 2 case reports from Thailand. Parkinsonism & Related Disorders. 2020; 79: e111.

[8] Chittilappilly, Jomal Mathew, Jerry Jose Kalampadan, and Sholy Vareed Kaitharath. Cerebellar ataxia following antitubercular therapy. Neurology and Clinical Neuroscience. 2022; 160-162.

[9] Snavely S, Hodges G. The neurotoxicity of antibacterial agents. Ann Intern Med. 1984; 101: 92–104.

[10] Grill MF, Maganti RK. Neurotoxic effects associated with antibiotic use: management considerations. British Journal of Clinical Pharmacology. 2011; 72: 381-393.

[11] Wishart, David S., et al. DrugBank 5.0: a major update to the DrugBank database for 2018. Nucleic acids research. 2018; 46(D1): D1074-D1082.