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NFL Wide Receiver with Paroxysmal Dystonia/Dyskinesia

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OBJECTIVE

Present a clinical case detailing Paroxysmal Dystonia/Dyskinesia in a NFL Wide Receiver.

BACKGROUND

A 22 yr. old male football player in the National Football League (NFL). This condition started when the patient was enrolled in middle school in OH. The onset of the condition started with the attacks happening about once every few months during his exercise, specifically football. The attacks consisted of left sided spells that he explained as a difficulty to move his limbs in the intended direction he wanted to go. Also he described it as what he imagined a mini-stroke would feel like. Then when the patient enrolled in high school the attacks increased to once every month. In college, the patient had an increase in attacks to twice and three times per month. Once he got to the professional level, the attacks could occur from about two to three times a week and even at one point twice in one day. Patient had chief complaints (CC) of periodic episodes where he felt his head was stuck with slight extension, periodic involuntary abduction of left arm and having the sensation he could not control his left leg, which is best described as the patient leaning towards the left side because the legs inability to correctly do as the patient wanted. Patient had no complaints of weakness, numbness, or dysphonia. The head AT observed a video of the athlete running a 40-yard dash and described the patient as having “his eyes roll into the back of his head, left arm abduction and seem to be falling off to

the left side due to the inability to control the left leg.”

MEDICAL HISTORY

Denies history of meningitis, seizures, and encephalopathy. There was no family history of Paroxysmal Dystonia/Dyskinesia, although there is a history of a brain injury during birth. The details are unknown to the patient.

DIFFERENTIAL DIAGNOSIS

Lesions (subcortical), Epilepsy, Psychosomatic Illness. The original diagnosis was Psychosomatic Illness; due to the fact the symptoms were not easily reproducible. Paroxysmal Dystonia was detected by a neurologist; from the signs/symptoms.

RELATED LITERATURE

Paroxysmal Dystonia is a genetic disease, meaning that the mechanism of injury is usually found through the genetic line; the genes normally affected are MR-1, PRRT2, and ECHS1.^{1, 4, 6, 7, 10-11} There are many forms of Paroxysmal Dystonia/Dyskinesia, but there are only a few that are ever diagnosed which are Paroxysmal Kinesigenic Dystonia (PKD), Paroxysmal Non-kinesigenic Dystonia (PNKD), and Paroxysmal Exercise-induced Dystonia (PED). The most common out of the three is PKD.^{1, 4, 6, 7, 10-11} All of these different variations of this condition has a different duration or frequency in attacks. Most will only be for about 5-10 seconds and may occur only 3 times a week. However, there are times when the attacks can last up to hours, days, and weeks for the duration.

TREATMENT

The final diagnosis was Paroxysmal Dyskinesia. The rehabilitation was a recommendation to administer the patient an antiepileptic (Carbamazepine).^{9,12} Results of what the patient selected are unknown due to the release from the team before the decision was made. The patient was asked to return in six months for a checkup. Also genetic testing was suggested at that time. Results are unknown due to dismissal from team before appointment. The neurologist did say the typical treatment of antiepileptic's would resolve all symptoms, but not needed unless symptoms interfere with activities of daily living.

UNIQUENESS

At first glance to the AT staff this looked like a psychosomatic illness due to the pts. inability to recreate the symptoms and odd set of symptoms. The diagnosis was a surprise to the staff, most of them had not heard of this condition before. Paroxysmal Dystonia/Dyskinesia only occurs in about 1 in 150,000 people. The symptoms are usually not present at the time of examination and are difficult to reproduce at times. The key sign/symptom of this condition is consistent description of the symptoms the patient is experiencing. What makes this case interesting is that there is no special test to determine the condition you have to use your intuition to determine a referral.

CONCLUSIONS

This condition may be hard to identify, but that doesn't mean we as Athletic Trainers should dismiss our pt. unusual complaints. Had this been detected in high school and/or college this patient could have had a completely different outcome. This condition is by no means impossible for us to be able to identify and refer. This shows that Athletic Trainers need to take all of the possible

options and realize that even though it may be a very rare condition, it still is a possibility.

REFERENCES

1. Skogseid IM. Dystonia - new advances in classification, genetics, pathophysiology and treatment. *Acta Neurologica Scandinavica*. 2014;129:13-19. doi.org/10.1111/ane.12231
2. Olgiati S, Skorvanek M, Quadr M. Paroxysmal Exercise-Induced Dystonia Within the Phenotypic Spectrum of ECHS1 Deficiency. *Move Dis*. 2016;31(7):1041-1048.
3. Mahajan A, Constantinou J, Sidiropoulos C. ECHS1 deficiency-associated paroxysmal exercise-induced dyskinesias: case presentation and initial benefit of intervention. *J Neuro*. 2016;264(1):185-187. doi.org/10.1007/s00415-016-8381-z
4. Erro R, Sheerin U-M, Bhatia KP. Paroxysmal dyskinesias revisited: A review of 500 genetically proven cases and a new classification. *Move Dis*. 2014;29(9):1108-1116. doi.org/10.1002/mds.25933
5. Gardiner AR, Jaffer F, Dale RC, et al. The clinical and genetic heterogeneity of paroxysmal dyskinesias. *Brain*. 2015;138(12):3567-3580.
6. PRRT2 gene - Genetics Home Reference. U.S. National Library of Medicine. <https://ghr.nlm.nih.gov/gene/PRRT2>. Published September 5, 2017. Accessed September 11, 2017.
7. Bhatia KP. Paroxysmal dyskinesias. *Movement Disorders*. *Oxford Med*. 2011;26(6):1157-1165. doi.org/10.1093/med/9780199937837.003.0012
8. Sawicka KM, Goetz H, Huntsman RJ. Successful Treatment of Paroxysmal Movement Disorders of Infancy With Dimenhydrinate and Diphenhydramine. *Ped Neuro*. 2016;56:72-75. doi.org/10.1016/j.pediatrneurol.2015.10.019
9. Zhang Y, Li L, Chen W, Gan J, Liu ZG. Clinical characteristics and PRRT2 gene mutation analysis of sporadic patients with paroxysmal kinesigenic dyskinesia in China. *Clin Neuro and Neuro Surg*. 2017;159:25-28. doi.org/10.1016/j.clineuro.2017.05.004
10. Méneret A, Gaudebout C, Riant F, et al. PRRT2 mutations and paroxysmal disorders. *Euro J Neuro*. 2012;20:872-878. doi.org/10.4172/2161-0436.1000105
11. Law C, Yeung W, Cheung Y, et al. A common PRRT2 mutation in familial paroxysmal kinesigenic dyskinesia in Hong Kong: a case series of 16 patients. *Hong Kong Med J*. June 2016;9:619-622. doi.org/10.12809/hkmj154579
12. Manca D, Liyanaarachchi R, Starreveld E. Diagnosis and treatment of paroxysmal kinesigenic dyskinesia in a 15-year-old boy. *Can Fam Phys*. 2014;60:445-447.

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