Indian Journal of Public Health Research & Development
Volume 13 | Issue 4 | October-December 2022

Lilliputian Hallucination-An Exceptional Psychiatric Symptom

Dipankar Maiti[1], Nethravathi. V[2]

[1]Nursing Tutor, Sushrutha College of Nursing, Rajiv Gandhi University of Health Sciences, Karnataka, India
[2]Principal, Sushrutha College of Nursing, Department of Obstetrics & gynaecological Nursing, Rajiv Gandhi University of Health Sciences, Karnataka, India

How to cite this article: Dipankar Maiti, Nethravathi.V, et al Lilliputian Hallucination-An Exceptional Psychiatric Symptom. Volume 13 | Issue 4 | October-December 2022

Abstract

As in normal cases in Psychiatry we have seen so many types of hallucination like tactile, auditory, visual, gustatory. But in this review article reader will get to know about a very rare &and unique type or category of hallucination i.e., Lilliputian Hallucinations. The AIWS is a clinical presentation of distorted body images and/or objects surrounding the subject experiencing the syndrome. Several medical conditions have been accompanying to this unique type of hallucinatory disease condition, the exact cause of which is yet unknown. AIWS can also be described as a set of symptoms with alteration of body image. An amendment of visual perception is found in that way that the sizes of body parts or sizes of external objects are professederroneously. The causes may be epilepsy, stroke, brain tumor, Head trauma, Migraines, Infection etc. The exact treatment modality is still not unknown.The finest way to treat this condition is simply by helping the patient become more comfortable. For example, if the problem is caused by migraines, the treatment of the migraine itself may be the best way to assuage Alice in Wonderland Syndrome symptoms.

Keywords: Alice in Wonderland syndrome, Todd's syndrome,dysmetropsia,temporal lobe epilepsy, Epstein-Bar virus

Introduction

AIWS is a rare neurological syndrome characterized by misrepresentations of visual perception, the body image, and the experience of time. People may see things smaller than they are, feel their body alter in size or experience any of the syndrome's numerous other indications. [1]

AIWS, also recognized as Todd's syndrome or dysmetropsia, is a neuropsychological illness that roots a distortion of perception. People may experience falsifications in visual perception of objects such as seeming smaller (micropsia) or larger (macropsia), or appearing to be nearer (pelopsia) or farther (teleopsia) away than they actually are. Spin may also occur for senses other than vision.[2]

AIWScan also be described as a set of symptoms with amendment of body image. Avariation of visual perception is found in that way that the sizes of body parts or sizes of exterior objects are perceived erroneously. The most common perceptions are at night. The causes for AIWS are still not known precisely. Typical migraine, temporal lobe epilepsy, brain tumours, psychoactive drugs toEpstein-Barr virus are causes of AIWS. AIWS has no confirmed, effective treatment. The treatment plan entails of migraine prophylaxis and migraine diet.[3]

Corresponding Author:
Dipankar Maiti
Nursing Tutor,Sushrutha College of Nursing, Rajiv Gandhi University of Health Sciences, Karnataka, India
Email Id: dipankarmaiti2015@gmail.com

Methodology

We performed a PubMed quest in April,2022 by using the phrases "AIWS," "AIWS pathophysiology," "AIWS treatment," and "Lilliputian Hallucination." The search bornealmost 46 papers, including reviews, case reports, case series, and small clinical studies. After excluding the 16 non-English reports without an English abstract, we encompassed the remaining 30, irrespective of publication date.

History

AIWS is also known as Todd's syndrome.This symptom was first identified in the 1950s by Dr. John Todd, a British psychiatrist. He noted that the symptoms and recorded anecdotes of this syndrome closely resembled episodes that the character Alice Liddell experienced in Lewis Carroll's novel "Alice's Adventures in Wonderland."[4]

Background

The syndrome is sometimes termed as Todd's syndrome, in reference to apersuasive description of the condition in 1955 by Dr. John Todd (1914–1987), a British consultant psychiatrist at High Royds Hospital at Menston in West Yorkshire.Dr. Todd discovered that several of his patient'sveteran severe headaches causing them to see and perceive objects as greatly out of proportion. In addition, they had altered sense of time and touch, as well as slanted perceptions of their own body. Despite having migraine headaches, none of these patients had brain tumours, damaged eyesight, or mental illness that could have accounted for these and similar symptoms.

Dr. Todd speculated that Carroll had used his own migraine experiences as a source of encouragement for his famous 1865 novel Alice's Adventures in Wonderland. Carroll's diary discloses that in 1856 he consulted William Bowman, arenowned ophthalmologist, about the visual manifestations of the migraines he habituallyexperienced. In Carroll's diaries, he often wrote of a "bilious headache" that came attached with severe nausea and vomiting. In the year of 1885, he wrote that he had "experienced, for the second time, that odd optical affection of seeing moving fortifications, shadowed by a headache".[5,6]

Anothewr Name-AIWS, Todd'ssyndrome, Lilliputian hallucinations, dysmetropsia

Risk Factors - Several conditions are linked to Todd'ssyndrome. The following may increase the risk for it:

Migraines-Todd'ssyndrome may be a type of aura, or a sensory warning of a coming migraine. Some doctors also believe that Todd'ssyndrome may be a subtype of migraines.

Infections-AWS episodes may be an early symptom of the EBV. This virus may cause infectious mononucleosis, or mono.

Genetics-family history of migraines and AWSmay have a higher risk for experiencing this rare condition.

Common Causes

Still the causes of AWS, but doctors are working to better understand this unique condition. They do know that AWS isn't a problem with the patient's eyes, a hallucination, or a mental or neurological illness.

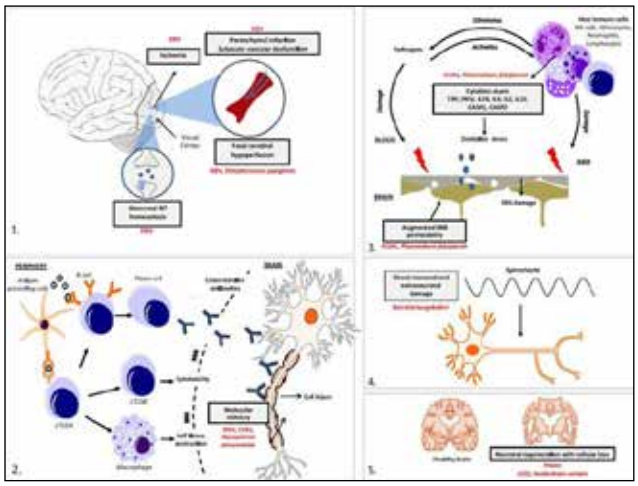
Researchers believe unusual electrical activity in the brain causes abnormal blood flow to the parts of the brain that process our environment and experience visual perception. This infrequent electrical bustle may be the result of several causes. Even if more research is needed, migraine is painstaking the leading cause for AWS in adults. Infection is painstaking the primary cause for AWS in children. Other possible causes include:

- infection
- brain tumours
- stress
- cough medicine
- use of hallucinogenic drugs
- epilepsy
- stroke
- head trauma
- migraines
- brain tumour
- acute Disseminated Encephalomyelitis[4,7]

Pathophysiology

The TPO junction connects the temporo-occipital, parieto-occipital, and temporo-parietal junctions is where visual and somatosensory dataare integrated to generate the inner and external representation of self. Other intricate perception can be professed by the patient if other areas of the brain are involved, evolving into complex somatosensory disorder. AIWS has been ascribed to the migrainous cortical dysfunction of the non-dominant parietal lobe.

Various studies have publicized that electrical stimulation of the parietal lobe chiefs to distortion in the size and length of the image perceived. Decreased perfusion to the non-dominant parietal lobe during an attack leads to discernment of symptoms. Generally, symptoms of AIWS can precede or accompany a migraine attack.[9]



Symptoms

- AIWS disorder may cause various numbers of symptoms like-
- Dysmorphopsia: Straight lines or edges appear to be wavy.
- Macrosomatognosia: A person's own body feels much bigger than it is.
- Microsomatognosia-A person's own body feels much smaller than it is.
- Visual hallucinations
- Metamorphopsia - visual distortions
- Macropsia - seeing images larger than normal
- Micropsia – seeing images smaller than normal
- Achromatopsia – inability to perceive colour
- Teleopsia – seeing farther than normal
- Pelopsia – seeing nearer than normal
- Micropsia: Objects seems much smaller than they really are
- Macropsia: Objects seems much larger than they are in real life
- Teleopsia: Objects seem further away than they are
- Pelopsia: Objects looks closer than they are
- Partial/total body macro/micro-matognosia
- Quick-motion phenomenon
- Dysmorphopsia – lines and contours look as if wavy
- Feeling of derealization, depersonalization, somatopsychic duality
- Alteration in judgement of time[7]

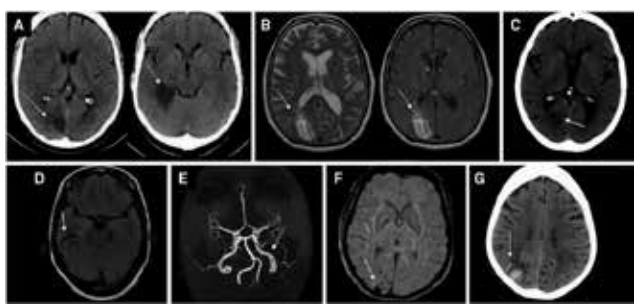
Symptomatic Types

Types	Obligatory symptoms	Facultative symptoms
A	Aschematia:partial or total macro-somatognosia or micro-somatognosia; paraschematia	Derealization, depersonalization, somatopsychicduality, aberration in judgement of time
B	Macro- and micropsia and/or tele- and pelopsia. When micropsia and telopsia seems at the same time and for the same object:porropsia Lilliputianism (people appearing smaller)	
C	Type A + type B symptoms	

Diagnostic Evaluation

- One or more episodes of self-experienced body schema illusion or metamorphopsia
- Duration < 30 min
- Accompanied by headache or a history of migraine
- MRI, CSF analysis, andEEG all normal. However, visual evoked potentials may be abnormal

The below picture shows different scanned photos of MRI in case of AIWS affected patients-



Treatment

There is no particular treatment for AIWS still. The superlative way to treat this condition is simply by helping the patient develop more comfortable with the perceptual problem which does not exists in reality. For instance, if the problem is caused by migraines, the treatment of the migraine itself may be the best way to assuageLilliputian hallucination

At present condition (2017), Lilliputian hallucination has no identical treatment plan.Since symptoms of Alice in Wonderland syndrome often disappear, either spontaneously on their own, or with treatment of the underlying disease, most clinical and non-clinical AIWS cases are considered to be benign. This unique condition is caused by underlying chronic disease, nevertheless, symptoms tend to reappear during the active phase of the fundamental cause (e.g., migraine, epilepsy). If treatment of Alice in Wonderland Syndrome is determined essential and useful, it should be engrossed on treating the suspected underlying disease. Treatment of these underlying conditions mostly involves remedial medications such as antiepileptics, migraine prophylaxis, antivirals, or antibiotics. Antipsychotics are seldom used in treating Todd'ssyndromesymptoms due to their minimal effectiveness.

Reported Cases

Report No. 1-A case of 24-year-old man with a identified cerebral vascular anomaly and seizures presented with a two-week history of visual and perceptual instabilities. Described visual disturbances comprise a physician "coming through a portal like Doctor Strange" to the patient's left side and the same physician's right shoulder and arm growing in size while the left hand was shrinking in size. Other perceptual disturbances contained within cars floating, people morphing into other people, and experiencing jamais vu. EEG proved nonconvulsive position epilepticus that was resilient to antiepileptic therapy with levetiracetam, phenytoin, and valproic acid. MRI of the brain revealed a right parietal cavernous deformity that increased in size as associated to prior imaging. A right parieto-occipital craniotomy with microdissection was made to separate the malformation from the normal brain parenchyma. Mutually gross and histological neuropathology were steady with an arteriovenous malformation. The patient was discharged from the hospital on levetiracetam and has had no reappearance of symptoms since the resection of the arteriovenous malformation.[11]

Report No. 2-A 69-year-old Thai man without an underlying illness presented with multiple episodes of transient visual disturbances of macropsia (seeing things larger than they are) including enhanced stereoscopic vision (an exaggeration of the depth and detail of visually alleged objects). The visual symptoms continued for a few seconds and were escorted by impairment of awareness, which his daughter described as not responding to others, for nearly a minute. He was seen chewing even nevertheless there was no food in his mouth. He has confronted those events 2 or 3 times per day for a twosome of months and more often in a week before he came to our hospital. He sometimes howled of palpitations as "rapid heartbeat" presently during the event. He did not reminiscence any dizziness, chest pain, shortness of breath, fever, headache, numbness, or weakness prior to each occurrence. He had not ever had symptoms like these before. He testifiedas a 35 pack-year times past and social drinking. He deprived of over-the-counter medication misuse, food and drug allergy, and a family history of unexpected cardiac death or epilepsy.[10]

Report No. 3-A case of 78-year-oldemeritus male – with comorbid condition of diabetes and hypothyroidism – was referred to the psychiatric department in Kolkata Medical collegefrom ophthalmology of the same hospital for VH of 1-year time period. The patient had the previous history of unembellished depressive episode 2 years back and had not taken any psychotropic medications or psychoactive substances for more than 1 year. He too had a history of bilateral cataract, which had led to deterioration in his visual acuity over the last few years. He checked to his ophthalmologist 1 year ago, reporting VH. The ophthalmologist supposed CBS, and he was successfully operated for his cataract; however, the VH persisted.[11]

Report No. 4-A 44-year-old gentleman, wedded and unemployed, had a history of bullous lesions over the tongue, palate and buccal mucosa. Dermatological assessment revealed bullae and crusted erosions over the forehead scattering toward the chest, abdomen, and ventral aspects of thighs. He respondedunwell to dapsone (100 mg/day), prednisolone (20 mg/day) and azathioprine (100 mg/day)for 10 weeks. While doing the MSE, athought-provoking phenomenon

noted was the fruition of tiny Lilliputian hallucinations into gigantic Brobdingnagian hallucinations (size of 10 feet) on treatment with the combination of steroids. The illumination of the visuals could not fit dysmegalopsia or visual imagery. His tedious blood investigations and CT scan of the brain were within the normal bounds. A diagnosis of organic depression with psychotic indications was made by consultation–liaison psychiatry team and in progress on oral escitalopram up to 20 mg and risperidone up to 4 mg/day. Within a week of treatment, the size of hallucinations abridged back to tiny people (from 10 feet to 2 feet) while conserving the shape of them and completely resolved by the end of 2 weeks. His depression amended at the time of releasing from the department backed by MSE and drop in the Hamilton Depression Rating Scale which scores from 18 to 6.[12]

Conclusion

Lilliputian hallucination is a very rare as well as exceptionalcategory of mental disorder but can be observed and scared by seeing various social media footages in you tube, Facebook and other sites. So, we, authors have tried to cover the allied information regarding the rarely known disorder. We expect that the readers will get enough information as well as interest about this special and unique type of hallucination.

List of Abbreviations

AIWS-Alice in Wonderland syndrome

MSE-Mental status examination

EBV- Epstein-Bar virus

CBS-Corticobasal syndrome

VH-Visual hallucinations

TPO-Temporo-parieto-occipital

MRI-Magnetic resonance imaging

CSF-Cerebrospinal fluid

EEG-Electroencephalogram

TPO-Thyroid peroxidase

CT-Computed tomography

Source of Funding

Self(review aticle), No financial support was provided relevant to this article.

Conflict of Interest- Have no conflict of interest relevant to this article

The authors affirm that the research was conducted in the absence of any profitable or monetary relationships that could be interpreted as a potential conflict of interest.

Ethical Clearance - Not required

Bibliography

1. Naarden T, ter Meulen BC, van der Weele SI, Blom JDi. Alice in wonderland syndrome as a presenting manifestation of Creutzfeldt-Jakob disease. Frontiers in Neurology. 2019;10(MAY):473.
2. Lanska DJ, Lanska JR. The Alice-in-Wonderland Syndrome. Frontiers of Neurology and Neuroscience [Internet]. 2018 [cited 2022 Apr 29];42:142–50. Available from: https://www.karger.com/Article/FullText/475722
3. Weissenstein A, Luchter E, Stefan Bittmann MA. Alice in Wonderland syndrome: A rare neurological manifestation with microscopy in a 6-year-old child. Journal of Pediatric Neurosciences [Internet]. 2014 Oct 1 [cited 2022 Apr 29];9(3):303. Available from: /pmc/articles/PMC4302569/
4. Blom JD. Alice in Wonderland syndrome A systematic review. Neurology: Clinical Practice. 2016 Jun 1;6(3):259–70.
5. Todd, J (1955). "The syndrome of Alice in Wonderland". Canadian Medical Association Journal. 73 (9): 701–4. PMC 1826192. PMID 13304769.
6. Lanska, John; Lanska, Douglas (2013). "Alice in Wonderland Syndrome: somesthetic vs visual perceptual disturbance". Neurology. 80 (13): 1262–4. doi:10.1212/WNL.0b013e31828970ae. PMID 23446681. S2CID 38722468.
7. Alice in Wonderland Syndrome | Symptoms & Treatment [Internet]. [cited 2022 Apr 29]. Available from: https://share.upmc.com/2016/10/alice-in-wonderland-syndrome/
8. Evans RW, Rolak LA. The Alice in Wonderland Syndrome. Headache. 2004;44(6):624-625. doi:10.1111/j.1526-4610.2004.446013.x
9. Blom, Jan Dirk (2016). "Alice in Wonderland syndrome". Neurology: Clinical Practice. 6 (3): 259–270. doi:10.1212/CPJ.0000000000000251. ISSN 2163-0402. PMC 4909520. PMID 27347442.

10. Panpruang P, Wongwandee M, Rattanajaruskul N, Roongsangmanoon W, Wongsoasu A, Angkananard T. Alice in Wonderland Syndrome-Like Seizure and Refractory Supraventricular Tachycardia. Case Reports in Neurology [Internet]. 2021 Nov 2 [cited 2022 Apr 29];13(3):716–23. Available from: https://www.karger.com/Article/FullText/519509

11. Chatterjee SS, Khonglah D, Mitra S, Garg K. Gulliver's world: Persistent lilliputian hallucinations as manifestation of Charles Bonnet syndrome in a case of cataract and normal pressure hydrocephalus. Indian Journal of Psychiatry [Internet]. 2018 Jul 1 [cited 2022 Apr 29];60(3):358. Available from: /pmc/articles/PMC6201671/

12. Sutar R, Patra S, Siddiqui F, DIwan S, Rajan A. A rare case report of Lilliputian and Brobdingnagian hallucinations in a case of pemphigus vulgaris. Indian Journal of Psychiatry [Internet]. 2020 Jul 1 [cited 2022 Apr 29];62(4):435–6. Available from: https://journals.lww.com/indianjpsychiatry/Fulltext/2020/62040/A_rare_case_report_of_Lilliputian_and.15.aspx