

Dorian Gray Delusion: Mirror Hallucination of Senescence

Shweta Kalita¹, Nikita Mehdiratta^{2*}, Alan Hirsch²

¹Spartan Health Sciences University, Vieux Fort, Spartan Drive St. Jude's Highway, LC12 101, Saint Lucia, USA

²Smell and Taste Treatment and Research Foundation, 233 E Erie St #712, Chicago, IL 60611, USA

Abstract

Introduction: The phenomenon of seeing a reflection of oneself while not looking at a reflective surface, *yclept*, autoscopic hallucinations, have been reported in those with a lesion in the nondominant parieto-occipital lobe. The Mirror Sign is an inability to recognize one's image in the mirror while retaining the ability to recognize others' images. Obligate autoscopic mirror hallucinations of senescence have not heretofore been described.

Case Report: A 37-year-old female with schizoaffective disorder presented with presence hallucinations and the perception that others were near her, even though she could not see or hear them. She described that when she gazes at herself in the mirror, she would not see her current face but rather the visage of an "old person," which recurs whenever she directly looks at herself in the mirror and avoids glancing at any mirrors because she was fearful of looking at her transformed senescent countenance. She realized it was not another person but herself in the future, having become her geriatric self.

Results: Abnormalities in Mental Status Examination: awake with poor hygiene and eye contact. Hypervocal, grandiose with expansive effect, poor insight, and judgment. Recall 3 out of 4 objects in 3 minutes and all 4 with reinforcement.

Discussion: Abnormalities in Mental Status Examination: awake with poor hygiene and eye contact. Hypervocal, grandiose with expansive effect, poor insight, and judgment. Recall 3 out of 4 objects in 3 minutes and all 4 with reinforcement.

Keywords: Autoprosopometamorphopsia • Hallucination • Schizoaffective disorder • Dorian Gray Delusion

Introduction

The phenomenon of seeing a reflection of oneself while not looking at a reflective surface, *yclept*, autoscopic hallucinations, have been reported in those with a lesion in the nondominant parieto-occipital lobe [1]. On the other hand, the Mirror Sign is an inability to recognize one's own image in the mirror while still retaining the ability to recognize others' images. [2]. Mirror hallucinations, in which hallucinations only occur when looking in a mirror, have been described in patients who engage in prolonged staring, in those with schizophrenia, and in those without psychiatric disorders [3]. Mirror hallucinations often occur concurrently with the mirror sign such that when a patient with these co-occurring conditions looks in the mirror, they not only cannot recognize themselves but also perceive their own image as that of another [1]. Obligate autoscopic mirror hallucinations have been described as associated with occipital lesions and in primary psychiatric disease [4,3]. Juvenescence Autoscopic Mirror Hallucinations have been described in three cases.

A 52-year-old woman in the mirror saw herself as a baby [3]. While such juvenescence hallucinations have been known to have nondominant parietal lobe lesions [3], her Magnetic Resonance Imaging (MRI) of the brain was normal. Another individual, a 90-year-old male, while looking in the mirror, perceived himself as younger [1]. His MRI demonstrated bilateral frontal post-traumatic encephalomalacia and a right dorsolateral frontal infarction, suggesting the self-recognition center's importance in the right frontal cortex. The associated bifrontal damage may have prevented any censorship of such distortion. In the third case, an 82-year-old woman saw herself in the mirror as a younger girl.

**Address for Correspondence:* Nikita Mehdiratta, Smell and Taste Treatment & Research Foundation, 233 E Erie St #712, Chicago, IL 60611, USA. E-mail: mnikita@mail.com

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Her MRI findings demonstrated right basal ganglia, bilateral thalamic infarctions, and a watershed infarction in the right posterior parietal lobe [2]. On the contrary, obligate autoscopic mirror hallucinations of senescence have not heretofore been described. Such a case is presented.

Case Presentation

A 37-year-old right-handed female with a history of hypertension, diabetes mellitus type 2, schizoaffective disorder, a bipolar subtype with four past psychiatric admissions for depression with suicide attempts through overdose presented with presence hallucinations, the perception that others were near her, even though she could not see or hear them. She believed a spirit would sometimes touch her and feel the energy all over her face "like powder." This energy around her lips would force her lips closed. The patient was markedly paranoid and expressed that other patients were not actual but were "undercover investigators." In addition, she experienced frequent *deja vu* and feelings of unreality and perceived that her face had transformed into a horse. Soon after this, the caballine autozoanthro prosopometamorphopsia was resolved. She described that when she would gaze at herself in the mirror, she would not see her current face but rather the visage of an "old person." This would recur whenever she directly looked at herself in the mirror and avoided glancing at any mirrors because she was fearful of looking at her transformed senescent countenance. She realized it was not another person but herself in the future; she had become her geriatric self. This persisted despite treatment with haloperidol, lurasidone, baclofen and carbamazepine.

Results

Abnormalities in Physical Examination: General: Diffuse thyroid enlargement. Mental Status Examination: The patient is awake with poor hygiene and eye contact. Oriented X3. Cooperative. Hypervocal, grandiose with expansive effect, poor insight, and judgment. Able to remember seven digits forward and five digits backward. Recalls 3 out of 4 objects in 3 minutes and all 4 with reinforcement. Presidents are as follows: Biden, Trump, Obama, Bush, Reagan? Able to spell the word "WORLD" forwards and backward. Interpretation of similarities: normal. Proverb testing: correct abstraction. Calculation ability: normal. Other: Neuropsychiatric Testing: Semantic Fluency Testing: Animal

Table 1. Neurological Examination

Cranial Nerve Examination	CN I: Alcohol Sniff Test: 8 (Hyposmia) CN II: Visual acuity with correction: 20/20 OD 20/25 OS
Motor Examination	Mild left pronator drift
Cerebellar Examination	Finger-to-nose dysmetria bilaterally
Sensory Examination	Rydel-Seiffer Vibratory Sense Evaluation: normal
Reflexes	3+ bilateral brachioradialis and biceps 2+ right triceps 1+ left triceps Absent reflexes in both lower extremities Bilateral positive Hoffman's reflexes

Fluency Test: 18 (Normal). Go-No-Go Test: 6/6 (Normal). The Patient Health Questionnaire 9:7 (mild depression). Centre for Neurologic Studies Liability Score: 11 (Normal). Michigan Alcohol Screening Test: 0 (Normal). Magnetic Resonance Imaging/ Magnetic Resonance Angiography of Brain with Infusion: Normal. The neurological examination findings are succinctly presented in Table 1.

Discussion

Classification of this patient's semiology is warranted. Prosopagnosia, with the inability to recognize faces, including one's face, is associated with lesions in the fusiform cortex in the nondominant parietal lobe [5]. Prosopamnesia, on the other hand, is the inability to learn new faces and is seen in lesions of the nondominant temporal lobe [6]. Alternatively, prosopometamorphopsia distorts the perception of faces [7]. Auto prospometamorphopsia is the perception of distortion of one's face. Distortion of images of objects, when viewed in a mirror, is mirror metamorphopsia. Distortion of perception of faces perceived in the mirror is Mirror prosopometamorphopsia. Distortion of one's face only when viewed in a mirror is autoprospometamorphopsia. With such distortion, this may be a misidentification of one's image. This phenomenon is classified as delusional misidentification syndrome, with the inability to recognize one's image in the mirror [8].

Autoscopic mirror hallucination may be viewed as equivalent to auto prospometamorphopsia, whereby the individual perceives his or her face is distorted when looking into the mirror but does not have other distorted sensations like tactile, olfactory, or gustation [7].

Prosopometamorphopsia, or the change in perception of distortion of faces, has been postulated to be due to the pathophysiology of the occipital face area, fusiform face area, and splenium of corpus callosum [7]. Perchance, facial self-perception is impacted by the dysfunction of areas involved in facial identification: the fusiform gyrus, occipital lobe face area, and superior temporal sulcus face area [7]. Superimposed internalization and recognition may also demonstrate the involvement of bilateral frontal lobes. While the bilateral nature of the patient's distortions suggests bilateral occipital lesions or a lesion of the splenium of the corpus callosum, her MRI was unremarkable.

Autoscopic mirror hallucinations appearing only when embedded in a mirror are obligate autoscopical mirror hallucinations and suggest occipital and parietal lobe dysfunction [9]. The inability to recognize the perception of another image or person replacing the individual looking in the mirror, while defined as a mirror sign, may also be viewed as "a camera's syndrome for the mirror image" [10]. The perception of distortion of one's image in the mirror but the retention of the ability to recognize that this image is the individual, however distorted, suggests this may not be a true delusion. Alternatively, the illusion of face distortion is associated with abnormality of the lateral convexity in the occipital lobe, Area 39, and the occipital face area [11]. This suggests that this illusion distorts reality, whereas a hallucination is a projection of a sensory phenomenon without basic sensory information. Between this construct, autoscopical mirror hallucinations may better be described as mirror illusions. However, everyday use of nomenclature does not define it as such, and for purposes of clarity, this will be referred to as autoscopical hallucination as opposed to autoscopical illusion. A mirror sign delusion is defined as Villerjo mandates four criteria, including: 1. abnormality in perception. 2. loss of familiar 3. lesion in the center of self-recognition 4. inability to correct wrong beliefs [1]. By such definition, this patient does not meet the criteria for mirror sign delusion in that she recognized herself

in the image, but it was not of her current self but relatively her future self. Given the above, it is suggested that Villerjo's criteria are too stringent and would exclude many autoscopical phenomena which only occur projected upon reflective surfaces [12]. Prospometamorphopsia with bilateral facial distortion, which is not localized and to mirrors, is seen with lesions to the occipital face area and fusiform face area in the splenium of the corpus callosum, as has been described in Alice in Wonderland syndrome [7].

Bilateral prospometamorphopsia suggests right-sided and bilateral occipital lesions, whereas hemiautoprospometamorphopsia is found with unilateral ipsilateral lesions of the left occipital lobe and the splenium of corpus callosum [7]. Autoprospometamorphopsia, obligated to mirror reflection but metamorphopsied to enhance perceived senescence, has not explicitly been localized. Given that the opposite, mirror juvenescent autoprospometamorphopsia has been localized to either nondominant parietal lobe, bilateral frontal, right dorsolateral frontal lobe, bilateral thalamic, and right posterior parietal lobe, suggesting that the same areas may also be involved in the perception of geriatric transformation.

A single lesion in the nondominant inferior parietal lobe may have caused this phenomenon. Somatoparaphrenia with somatosensory illusions involving body image is seen with parietal lobe dysfunction [13]. The inferior parietal lobe has been identified as a great imitator, facilitating psychiatric semiology [14]. The inferior parietal lobule may be predisposed to some psychiatric signs due to its substantial interconnection with the temporal-limbic areas. Since the parietal lobe is also involved in somatosensory processing, peradventure distorted sensory perception with associated negative self-image may have been the nidus for mirror hallucination. Such misperception may have been amplified into a delusion because of a hyperconnection between the parietal lobe and the limbic system. This may represent a variant of the two-factor hypothesis of delusions whereby a distorted sensory perception is misrepresented as a delusion [15-19]. Dysfunction of the right hemisphere, which normally acts to censor the left, allows the delusion to manifest [20]. Such a nidus of delusion has been described in crucifixion cenesthopathy in Marfan's syndrome [21], drug-induced parkinsonism in Cotard's syndrome [22], and drug-induced parkinsonism in a xylological variant of reverse fregola syndrome [23]. While two different anatomical abnormalities (one left and one right hemisphere) have been postulated to be the foundation of such delusions, it is distinctly possible that a single lesion of the inferior parietal lobule may be sufficient for both sensory distortions to be produced due to loss of inhibition of delusional interpretation of distorted sensation of the frontal lobe by the right parietal lobe [15], yclept the sensorial hypothesis [24]. Thus, a single lesion in the nondominant inferior parietal lobe could be postulated using Occam's razor for mirror autoscopical hallucination. A gross abnormality of the nondominant parietal lobe was not apparent in the current case. At the same time, it may have been present but required more sensitive radiological testing modalities to demonstrate such a deficit.

Conclusion

A psychological understanding of such senescent transformation may be understood given that in the current zeitgeist, images of older women are culturally undesirable. Thus, elderly visual projections may be the facial equivalent of negative, condemning, denigrating auditory hallucinations. Alternatively, such a displeasing visual projection may represent an exaggeration of the negative self-image, which becomes manifest when staring at one's reflection. Exaggeration of this to involve the entire face, with a projection of imperfection of aging, maybe a somatic manifestation of such a negative self-image. Such senescent autoprospometamorphopsia may be prevalent, to a lesser degree, in the general population and maybe a nidus for younger people seeking cosmetic and plastic surgical intervention of the face. Interviews of those undergoing botulinum toxin injections and collagen fillers placement may reveal an otherwise hidden endemic of obligate mirror autoprospometamorphopsia.

List of abbreviations

CN - Cranial Nerve

Ethics approval and consent to participate

The patient provided informed consent.

Consent for publication

Written informed consent was obtained from the patient to publish this case report.

Availability of data and material

Not applicable

Competing Interests

The authors declare that they have no competing interests.

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Authors' contributions

SK analyzed and interpreted the patient's results regarding mirror autoprosmetamorphopsia. NM summarized the existing literature. DB significantly contributed to the manuscript's drafting. AH made substantial contributions to interpreting the neuroanatomical association between chemosensory and psychiatric dysfunction. All authors read and approved the final manuscript.

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