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The Unsteady Lens: Visual Dysfunction in Multifactor Secondary Dysautonomia—A Lived Experience with Integrated Physiological Analysis

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Abstract

Multifactor secondary dysautonomia presents with a wide spectrum of systemic manifestations, among which visual dysfunction remains under-recognised and under-characterised. This paper presents a lived experience narrative integrated with established physiological mechanisms to explore the impact of autonomic dysregulation on visual function, including pupillary control, accommodation, photophobia, visual fatigue, and sensory instability. The narrative is situated within a multifactorial aetiology involving viral insult, acute cardiac compromise, and surgical intervention, illustrating how cumulative physiological stress disrupts autonomic homeostasis. The paper further examines the implications of impaired cerebral autoregulation and sensory integration on visual processing and environmental tolerance. By bridging lived experience with clinical science, this work highlights the importance of recognising visual symptoms as a manifestation of systemic autonomic dysfunction rather than isolated ophthalmological pathology. This integrative approach supports improved diagnostic awareness, patient validation, and more holistic management strategies in dysautonomia care.

Keywords: Dysautonomia, Secondary Dysautonomia, Visual Dysfunction, Photophobia, Accommodation Disorder, Cerebral Blood Flow, Autonomic Nervous System, Lived Experience, Sensory Processing, Orthostatic Intolerance

The Unsteady Lens: Vision in Multifactor Secondary Dysautonomia

There was a time when my eyesight was something I never thought about. It simply worked—effortless, reliable, automatic. The world came into focus without negotiation.

Light was just light. Clarity was assumed. That changed. As the autonomic dysfunction unfolded—layer upon layer, insult upon insult—the visual system became one of the most immediate and confronting indicators that something deeper was wrong. This was not a problem of the eyes themselves. It was a problem of control. The act of seeing, I have come to understand, is profoundly autonomic.

Light That Overwhelms

Brightness is no longer neutral. It can be aggressive—almost hostile. Walking into a well-lit room, or stepping outside into sunlight, can trigger a visceral reaction: squinting, discomfort, even a sense of disorientation. It is not simply sensitivity—it is an inability of the system to regulate incoming light. Under normal physiology, the autonomic nervous system governs pupillary response—constriction in bright light via parasympathetic pathways and dilation in dim environments via sympathetic pathways [1,2]. In dysautonomia, this balance becomes impaired, leading to delayed, reduced, or inappropriate pupillary responses [3]. The result is a delay, or an overreaction, or sometimes no appropriate response at all. Light floods in unchecked. And with it comes fatigue, strain, and at times a subtle nausea that reflects sensory-autonomic mismatch [4].

The Struggle to Focus

Focusing—Once Instantaneous—Has Become a Conscious Effort

Reading a page, working on a screen, even maintaining visual attention during a conversation requires energy. The

words can blur, sharpen, then blur again, as though the system is constantly recalibrating but never quite locking in. Accommodation—the process by which the lens adjusts to maintain a clear image—is mediated primarily by parasympathetic control of the ciliary muscle [1,5]. Dysregulation of this pathway, as seen in autonomic disorders, leads to fluctuating or impaired accommodation [6].

- What I experience is not simply blurred vision.
- It is unstable vision.
- There are moments where clarity returns—briefly—and then it slips again.

Visual Fatigue: More Than Tired Eyes

Fatigue, in this context, is not localised to the eyes. It is systemic, but the eyes amplify it. After sustained visual effort, there is a deep, draining exhaustion. The world feels harder to process. Light becomes harsher. Focus becomes more elusive. This aligns with impaired cerebral autoregulation seen in dysautonomia, where the brain struggles to maintain stable blood flow during cognitive or postural demand [7,8]. The visual cortex, dependent on consistent perfusion, becomes vulnerable to fluctuations, resulting in reduced processing efficiency and fatigue [9]. Seeing becomes tiring because the brain is working harder to compensate.

Motion, Instability, and the Visual Field

There are moments when the visual field itself feels subtly unstable.
Not spinning, not classical vertigo—but a sense that the environment is not entirely anchored. Movement in peripheral vision becomes distracting, even disorienting. This reflects impaired integration between the autonomic nervous system and central sensory processing, particularly within vestibulo-ocular and visual processing pathways [10].

Dysautonomia has been associated with altered sensory filtering and heightened sensitivity to visual motion and environmental complexity [11]. The result is a reduced tolerance for visually busy environments.

The Three-Hit Story Behind the Eyes

When I step back and reflect, this visual dysfunction does not exist in isolation. It is part of a broader physiological narrative. The initial viral insult—CHIKV—likely initiated autonomic disruption through neuroimmune and inflammatory mechanisms [12]. The cardiac tamponade during ablation introduced acute haemodynamic instability, compromising perfusion and autonomic regulation [13]. The subsequent open-heart surgery, while life-saving, contributed further systemic stress and autonomic imbalance [14].

Each Event Left Its Mark

Together, they destabilised a system that is meant to operate seamlessly in the background. What I now experience through my eyes is the downstream expression of that cumulative burden.

Living With It: Adaptation and Awareness

I Have Had to Adapt

Lighting matters now—soft, controlled, predictable. Screens require breaks. Environments must be chosen with care. There is also a growing awareness—a kind of internal monitoring—that was never necessary before. This aligns with the lived experience of patients with chronic autonomic dysfunction, who often develop compensatory behavioural strategies to manage fluctuating physiological states [3,7].

- This is not fear.
- It is management.

Reframing the Experience

This is not an ophthalmological failure.
It is the manifestation of autonomic dysregulation affecting pupillary control, accommodation, cerebral perfusion, and sensory integration. When seen through this lens, the experience becomes coherent.

Conclusion

- Vision, for most people, is passive.
- For me, it has become active—effortful, variable, and deeply connected to the broader story of autonomic dysfunction.
- The eyes are not failing.
- They are reporting.

Conflict of Interest Statement

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Ethics Statement

This study is based on the author's lived experience integrated with published literature. No identifiable third-party data

is included. Ethical approval was not required.

Author Contributions

The author is solely responsible for the conceptualisation, writing, analysis, and final approval of the manuscript.

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