A Case of Triplopia: A Case of Conversion Disorder?

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ABSTRACT

The low vision rehabilitation orthoptist is involved in assisting clients to maximize independence despite functional vision loss, which may come in the form of reduced vision, field loss, reduced contrast sensitivity, or loss of binocular functions. In this paper, a case study of an elderly female who presented with monocular triplopia is discussed. The relationship between conversion disorder and the patient's symptoms, the importance of tailoring management to the patient's functional requirements and the role of the orthoptist within a multidisciplinary team is discussed.

Keywords: Binocular functions, conversion disorder, monocular triplopia, binocular diplopia

INTRODUCTION

Triplopia is an uncommon presenting symptom with limited information on its incidence. A recent retrospective study showed that less than 1% of neurology patients complain of triplopia and that in most of these cases the symptoms were related to abnormal eye movements.[1] Triplopia can be caused by a number of ocular conditions, including eye movement disorders[2], lens irregularities[2-6], retinal disorders[2], cerebral polyopia[2], impaired lateral inhibition of the visual cortex[7], corneal irregularities[2], abnormal corneal steepening[8] and small pupils.[9]

However, transient monocular triplopia has also been associated with Conversion Disorder.[1] Conversion disorder, previously known as "hysteria", is a condition where patients present with symptoms of motor and sensory dysfunction that are not explained by known physical disorders or pathophysical mechanisms.[10,11] Penman describes these symptoms as subconscious and out of the control of the patient experiencing this.[12] However, more recent studies suggest it could in fact be an early disruption to the nervous system rather than a psychological disorder.[13]

It has been reported that the total incidence of conversion disorder is between 15 to 22 per 100,000.[14] Visual symptoms in conversion disorder are not confined to triplopia, but also include rapid onset of vision impairment, sudden blindness, spiral or star-shaped loss of visual field, purple shadows, bilateral ptosis, hallucinations, and convergence spasm.[1,15-21] This case study describes a patient with suspected conversion disorder presenting with transient monocular triplopia in addition to intermittent binocular diplopia due to a decompensating exophoria.

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CASE REPORT

CC, a 67 year old female was referred to Vision Australia with a history of experiencing triplopia which could not be relieved with new glasses. CC was diagnosed with Multiple Sclerosis (MS) 12 years prior to the referral and was in a wheelchair. CC's general health conditions also included osteoarthritis, inflammatory heart disease and urinary incontinence. There were no obvious cognitive issues associated with the MS according to her general practitioner.

CC enjoyed crosswords and cross-stitch prior to the onset of the triplopia. She was very keen to keep up the cross-stitch, which requires use of binocular vision and depth perception. For CC this was the main functional issue that needed to be addressed. Due to the combination of health problems and being in a wheel-chair, sight-related activities had become increasingly important to her.

On the first orthoptic investigation cover test revealed an intermittent alternating exotropia at near estimated to be 5 degrees by corneal reflections. For distance she appeared orthophoric. Her convergence near point was reduced to 25 centimeters. Visual acuity was 6/18 in the right eye and 6/12 in the left eye with correction of +0.75/-2.50 x 100° and +0.50/-2.50 x 80° respectively. Near acuity with a +2.00 add was N5 with both eyes open. A subjective refraction was not performed at this visit as the patient was awaiting new glasses.

During reading, CC complained of vertical ghosting around words in each eye, which was subjectively better with both eyes open and disappeared beyond 25cm. When monocular, she preferred fixing with her left eye. CC did not describe symptoms of diplopia or triplopia during this examination. A focal light enabled print of poor contrast to be read and improved reading comfort. CC was advised to hold reading material slightly further away from her eyes (beyond 25cm), in order to relieve symptoms, whilst waiting for the new glasses. Given the importance of binocularity for the tasks she enjoyed, occlusion to relieve the monocular ghosting was not prescribed. One week later CC reported to be finding benefit in the use of the task lamp and occasionally closing one eye, but had not tried holding reading material further away to relieve the symptoms of ghosting.

CC was subsequently reviewed by her local ophthalmologist. The ophthalmologist confirmed there was no retinal, lens or corneal pathology. Interestingly, on this visit CC reported monocular triplopia and noted that it disappeared when the orthoptist used a multiple pinhole.

On the follow-up visit at Vision Australia, best corrected visual acuity with CC's new glasses was recorded as 6/6 N5 and 6/5 N6 in the right and left eyes respectively. CC complained of monocular triplopia which was intermittently present for near, but more marked without correction. In clinic, the symptoms presented in the right eye mainly as three distinct images, but occasionally as vertical ghosting. Due to the intermittent nature of the symptoms, CC was unable to reliably demonstrate the distance at which the triplopia disappeared. However, CC also reported that on occasion she experienced binocular diplopia when looking into the distance at, for example, the moon or television.

Cover testing showed no significant change, extraocular movements appeared full and her saccades did not appear to be delayed. During convergence the right eye failed at 15cm with diplopia. On this visit CC was given convergence exercises to address the convergence weakness exotropia which was thought to be causing binocular diplopia. Given that CC reported monocular triplopia at this visit, she was also encouraged to compare limited total occlusion when symptomatic, versus the occasional use of the multi-pinhole glasses.

On review 2 weeks later, CC reported that the most effective approach to alleviate symptoms was part time total occlusion in the form of covering the right eye whilst watching television. She was learning to adapt to the monocular triple images, which she now described as monocular ghosting. One year later CC was primarily complaining of monocular ghosting which she was able to ignore or manage by occasionally covering one eye.

DISCUSSION

This case presents a patient complaining of intermittent monocular triplopia. On testing these symptoms alternated between monocular triplopia, binocular diplopia and ghosting. Keane recently reported that a significant number of individuals complaining of triplopia offer this description as an interpretation of binocular diplopia or oscillopsia.[1] It is possible that CC was also misinterpreting binocular diplopia related to her exotropia as triplopia. However, it must be noted that she also complained of this symptom in the distance where she demonstrated orthotropia.

Given that there was no ocular pathology, other than a convergence weakness exotropia, another possible cause for the triplopia is conversion disorder.[14] Conversion disorder is also frequently associated with organic disease whether coexistent or antecedent.[17] Furthermore it is cited as common in those diagnosed with MS, and has been reported to possibly be a manifestation of the damage to the CNS.[14] Russo[22] and Fadil et al[23] also reported that conversion disorder can itself lead to an incorrect diagnosis of general disorders, including MS, further confusing the clinical picture.

The complex nature and manifestations of conversion disorder, requires a comprehensive multidisciplinary approach to the assessment of a patient suspected of this condition. Newman[24] recommends co-operation between the neuro-ophthalmologist and psychiatrist. Similarly Langmann et al[25] recommend neuro-ophthalmic and orthoptic investigation together with observation of patient behavioral habits that may warrant referral to a psychiatrist. Smith, et al[26] also recommended involvement with a social worker as well as the abovementioned medical specialists for early intervention and differential diagnosis. Health professionals in the area of low vision are also often encouraged to communicate widely with other professionals, such as medical practitioners and psychiatrists to explore aspects of the patient's general and mental health which may impact on their reported visual symptoms. In the case of CC, it is clear that a wider multidisciplinary approach may have assisted in clarifying the aetiology of the patient's monocular triplopia.

This case also demonstrates the importance of understanding the patient's functional needs and the impact of management. CC enjoyed tasks that required binocular functions and

as such alternatives to occlusion, a widely-implemented management regime for symptoms of monocular diplopia, triplopia or ghosting, needed to be considered. In CC's case the use of lighting and good contrast, the training of convergence and the trial of a multiple pinhole viewer were all provided as options to encourage binocularity.

CONCLUSION

In conclusion, this case study demonstrates that an interaction between a patient's general health and visual symptoms when unexplained by ocular pathology needs to be explored. Furthermore, whilst it is not definitively known whether our patient was having a conversion reaction, it is clear that an integrated multidisciplinary approach to the management of patients with complex health conditions is important.

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