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# A Case of Functional Visual Loss Mimicking Acquired Color Vision Defect after Retinal Detachment

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**Abstract** **Case Report**

We present a case of color vision abnormality in a 61-year-old man. He had a history of retinal detachment surgery in the left eye. Best corrected visual acuity was 1.2 and 0.6 in his right and left eyes, respectively. The Ishihara test demonstrated one error for the right eye but total color blindness pattern in the left eye. Color vision testing with a Farnworth Dichotomous Test showed a fail pattern in left eye but no error in the right eye. Two months after the initial visit, a fail pattern was found in right eye and no error was detected in the left eye. The patient was diagnosed with functional visual loss. This present case highlights that psychogenic visual disorder is accompanied by color vision abnormality as well as visual impairment and visual field abnormality.
**Keywords:** functional visual loss, color vision, retinal detachment.


## INTRODUCTION

Color vision abnormality can be a manifestation of various eye disorders [1-4]. Acquired color vision defects are sometimes seen in patients with functional visual loss (FVL) or psychogenic visual disorder. Herein, we report a case of color vision abnormality in a 61-year-old man who had a history of retinal detachment surgery.

## CASE REPORT

A 61-year-old man presented with color vision abnormality: 'red looks orange, green looks whitish blue and yellow looks whitish yellow.' He had no family history on color vision abnormality. He had a history of retinal detachment surgery in the left eye one year before the initial visit. From the same time, he had stiff shoulders, sleeplessness, and a sense of head abnormality: like a butterfly resting on the head. Best corrected visual acuity was 1.2 and 0.6 in his right and left eyes, respectively. On fundus examination, there were no problems in both eyes. The Ishihara test demonstrated one error for the right eye but total color blindness pattern in the left eye. Color vision testing with a Farnworth Dichotomous Test (Panel D-15 test) showed a fail pattern (confusion pattern of the protan axis) in left eye but no error in the right eye. Two months after the initial visit, color vision test were performed again. In the Panel D-15 test, a fail pattern (confusion pattern of the duetan axis) was found in right eye and no error was detected in the left eye. Goldmann visual field finding was normal in the right eye, and constrictive change due to retinal detachment surgery was observed in the left eye. The patient was diagnosed with FVL. Although his objective findings did not improve, subjective symptoms were alleviated by wearing goggles glasses, and he had been able to cope with his own color vision abnormality. No abnormal finding was observed in brain magnetic resonance imaging in this patient.

## DISCUSSION

In this patient, we initially suspected postoperative color vision change. However, in brief, color vision test results fluctuated during follow up period, and he had subjective symptoms suggestive of psychosomatic disorder. Therefore, we considered that these findings were compatible with FVL.

Color vision abnormality can be a manifestation of various eye disorders, including congenital color vision abnormality, cataract, glaucoma, optic neuropathy, and macular edema [1-4]. Kato [4] investigated acquired anomalous color vision using anomaloscope. According to their report, a significant decrease in green-blue and yellow-blue discrimination compared with red-green discrimination was shown in retinochoroidal diseases such as central serous chorioretinopathy, macular degeneration, and retinal detachment.

Incidences of FVL in an outpatient clinic setting have been reported to be approximately 1.75% in children and 5.25% in adults [5, 6]. Lim *et al*. [5] reported that FVL manifested as visual acuity loss only occurred in 26.1%, FVL manifested in visual field loss only was present in 28.3%, and FVL with loss of both visual acuity and visual field occurred in 45.6%. In addition, thirty-two adults had a history of psychiatric illness. Social problems at home or in school were major associations in children, whereas physical trauma predominated in adults. At the time of the onset of the color vision abnormality in this patient, he was under the postoperative unstable visual function.

## CONCLUSIONS

This present case highlights that psychogenic visual disorder is accompanied by color vision abnormality as well as visual impairment and visual field abnormality.

**Disclosure**

The author declares no conflict of interest.

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