



# New-Onset Visual Hallucinations in a Woman with Diabetic Retinopathy

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## Case Description

- 28-year-old woman presented with **one week of acute-onset visual hallucinations** consisting of spiders and non-specific shapes
- PMH: DM1, legal blindness due to diabetic retinopathy, on hemodialysis, Major depressive disorder
- Recent UTI treatment
- Exam (notables): decreased b/l vision
- Lumbar puncture: elevated protein 168
- Non-con head CT: no acute process
- Ophthalmology evaluated and diagnosed
  - **Neurotrophic keratopathy**
- Management:
  - Empiric acyclovir treatment
  - Adjusted psychiatric medications
  - Hallucinations did not resolve, but she became far more **tolerant**
- Final diagnosis: Visual release hallucinations, a.k.a.
  - “Charles Bonnet syndrome”

## Charles Bonnet Syndrome

- Visual hallucination syndrome occurring in patients with any pre-existing visual impairment
- Patients understand that these hallucinations are not real, however may still find them distressing
- DDX: metabolic/toxic encephalopathy, neurodegenerative disorders, migraine aura, psychiatric disease
- Management:
  - Reassurance
  - REM exercises
  - Antipsychotic medications

## Delusion-Illusion-Hallucination

- Delusion
  - Fixed, false belief that cannot be corrected by logic and are not consistent with the patients culture or education
- Illusion
  - Misperception of real external stimuli
- Hallucination
  - False sensory perception without real external stimuli

## Visual Hallucinations

A 4-question framework to the approach of evaluating visual hallucinations can be useful:

### 4-Questions

1. Is the perception an illusion or hallucination?
2. Simple or complex?
3. Does the patient have insight into the hallucinations?
4. Are other sensory hallucinations present?

## Summary

Young woman with chronic vision loss presenting with superimposed acute vision loss and distressing visual hallucinations that were both simple and complex, who maintained appropriate insight into these hallucinations and did not have any additional sensory hallucinations.

## Key Points

1. Charles Bonnet Syndrome can present with distressing visual hallucinations in patients with preexisting visual impairment
1. Four questions provide a framework for characterizing visual hallucinations

### Illusion or hallucination?



### Simple or complex hallucination?



## Clinical features suggestive of the underlying etiology of visual hallucinations

Features	Most likely etiologies
Simple patterns, spots, shapes, or lines; unilateral distribution; associated with headache	Migraine, seizure, tumor
Macropsia, micropsia, metamorphopsia	Seizure, Creutzfeldt-Jakob disease
Associated with going to, or waking from, sleep	Hypnagogic or hypnopompic hallucinations
Confabulation of all vision	Anton's syndrome (Cortical blindness)
Frightening content	Psychotic disorder, delirium, hallucinogenic drug
Good insight	Charles Bonnet syndrome (visual hallucinations in setting of vision loss/occipital damage) migraine, peduncular hallucinosis

References:

