First Report

Visual Snow: A Clinical Analysis

Kathryn Ireland, DO, MBA
Miami, FL
I have no financial disclosures...

but I am currently looking.
Case 1

- 34 year old female presents with a 4 month history of constant “static” moving around her vision. This becomes more prominent in dim lighting or when looking at blank walls. However it was present in bright lighting as well. She also has had some instances where an object of regard would persist even after looking away from it.

- PMHx: Migraines, IIH (pseudotumor cerebri) 10 yrs ago (presumably induced by Vitamin A and/or doxycycline)

- PFHx: HTN

- Social Hx: denies smoking, illicit drugs, 1-2 glasses of wine/week

- Meds: None

- Allergies: NKDA
Case 1

- DVAcc: 20/15 OU
- IOP: 13/12
- EOM’s intact, Ortho, Full to confrontation OU
- Pupils: PERRL, Negative APD OU
- External Adnexa: Within normal limits and symmetric.
- Conjunctiva: White and quiet OU
- Cornea: Clear OU
- Anterior Chamber: Deep and clear OU
- Iris: Flat and round OU
- Lens: Clear OU
Case 1

- DFE: Disc sharp/pink OU; CD 0.1 OU, Vessels WNL OU; macula flat OU; retina flat and intact 360°
- Color plates 8/8 OU
- Humphrey VF - normal OU
- MRI - normal
- VS Simulator: density 16, flicker rate 6
Case 2

- 38 year old female presents with a 1 year history of constant “pixelated static, like between the TV channels” in both eyes which is superimposed upon all objects of regard. She has adjusted to the symptoms, though they have recently gotten worse in the left eye. Symptoms are worse in a dimly lit room, and are more noticeable when looking at solid object like a blank wall. She has also noticed increased fatigue.

- PMHx: Migraines; Fibromyalgia
- PFHx: Esophageal, Uterine, Bowel Cancer
- Social Hx: Social Drinker; Nonsmoker
- PSxHx: None
- Medications: Restasis
- Allergies: “Mycins”
Case 2

- DVAcc 20/20 OU
- IOP: 13 OU
- EOM’s intact, Ortho, Full to confrontation OU
- Pupils: PERRL, Negative APD OU
- External adnexa: Within normal limits and symmetric.
- Conjunctiva: White and quiet OU
- Cornea: Clear OU
- Anterior chamber: Deep and clear OU
- Iris: Flat and round OU
- Lens: Clear OU
Case 2

- DFE: Disc sharp/pink OU; CD 0.1 OU, Vessels WNL OU; macula flat OU; retina flat and intact 360°
- Humphrey VF - normal OU
- Color plates 8/8 OU
- MRI - normal
- VS Simulator: density 50, flicker rate 3
Case 3

- 17 year old male presents with a 2 year history of difficulty adjusting to bright light and floaters that obscure his entire field of vision. This has become more prominent over the past year, increasing in frequency and intensity. He describes it as static that is worse in a dark room, or when looking at a blank wall. It has gotten so bad he has had to take a leave of absence from college. He has unsuccessfully tried TCAs, Calcium channel blockers, & anti-epileptics.

- PMHx: None
- PFHx: Migraines
- Social Hx: currently on leave from Duke University
- Medications: Amitryptaline 10mg QHS
- Allergies: None
Case 3

- DVAcc 20/20 OU
- IOP: 12 OU
- EOM's intact, Ortho, Full to confrontation OU
- Pupils: PERRL, Negative APD OU
- External adnexa: Within normal limits and symmetric.
- Conjunctiva: White and quiet OU
- Cornea: Clear OU
- Anterior chamber: Deep and clear OU
- Iris: Flat and round OU
- Lens: Clear OU
Case 3

- DFE: Disc sharp/pink OU; CD 0.1 OU, Vessels WNL OU; macula flat OU; retina flat and intact 360°
- Color plates 12/12 OU
- Humphrey VF - normal OU
- MRI - normal
- Full field ERG - normal
- VS Simulator: density 12, flicker rate 2
Differential Diagnosis

- Hallucinations
- Charles-Bonnet Syndrome
- Anton’s Phenomena
- Persistent positive visual phenomena (visual snow)
- Creutzfeldt-Jakob disease
- Factitious disorder
- Persistent migraine aura
- Malingering
- Psychogenic disorder
- Delirium
- Just to name a few…
Visual Snow
XMAS SPECIAL
THE SAME STUFF WE
ALWAYS SELL BUT NOW
WITH ADDED SPRAY SNOW
ON THE WINDOW
What is Visual Snow?

Also known as persistent positive visual phenomena, visual snow is a symptom which consists of *continuous black and white dots in the entire visual field*, which simulates vision through a porous filter. This is often described as *television static*. Symptoms often *worsen in dim lighting*, or when looking at a blank surface.

**Diagnostic criteria** of visual snow suggested by Schankin:

1. Continuous and dynamic visual snow
2. At least one additional symptom of palinopsia, photophobia, impaired night vision, entopic phenomenon
3. Symptoms are not consistent with typical migraine with aura
4. Symptoms are not attributable to any other disorder

There is a slight male preponderance (1:2.2) and the age of onset has been reported at 21 ± 9.

Patients are often diagnosed as having persistent migraine aura, malingering, or psychogenic disorder because objective measures for the condition are not available to date.
Episodes of visual snow are continuous, and last for years. Though mainly associated with migraines, symptoms are distinctly different from migraine aura, and are not refractory to medication.³

Visual snow clinical syndrome in which patient usually have other associated visual phenomena. These include momentary formed image preservation, photopsia, floaters, visual training, photophobia, nyctalopia, tinnitus, blue field entopic phenomenon, concentration problems, and lethargy.²

Clinically, visual snow shares little of the phenotype of typical migraine aura. Several medications have been used to treat individuals with persistent visual aura, including verapamil, aspirin, selective serotonin reuptake inhibitors, tricyclics, carbamazepine, nifedipine, and beta blockers.⁶ Shankin, And his associates’ research unfortunately showed that 92% respond to prescribed medication.³
### Data Comparison

<table>
<thead>
<tr>
<th></th>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Density</strong></td>
<td>16</td>
<td>50</td>
<td>12</td>
</tr>
<tr>
<td><strong>Flicker Rate</strong></td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td><strong>Associated Phenomena</strong></td>
<td>Object preservation/ palinopsia</td>
<td>Increased fatigue</td>
<td>Floaters, photophobia</td>
</tr>
<tr>
<td><strong>Symptom Severity</strong></td>
<td>Not yet acclimated</td>
<td>“Can live with it”</td>
<td>“Dropped out”</td>
</tr>
</tbody>
</table>
Visual Snow

What if you saw television static moving in your eyes all of the time and nobody believed you?
Ongoing Investigations

- More patients
- Further correlation with past medical history
- Correlation with simulator scores
- Prevalence, etiology
- Treatment strategies


THANK YOU!