It’s snowing! Seven cases of persistent migrainous visual aura

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INTRODUCTION:
The visual disturbance symptom described as “visual snow” has been present in the literature since 1982 (10). In the past 25 years, other reports have been published using different names, such as prolonged migraine aura status, sustained visual aura, persistent positive visual phenomena, persistent migrainous visual phenomena, and persistent aura without infarction (1-10) to describe the same entity. The second classification of the International Headache Society named it migrainous visual aura (MVA) and describes it as persistent visual phenomena lasting more than seven days without evidence of infarction. The time frame differentiates persistent migrainous visual phenomena, the latter characterized by visual symptoms not exceeding seven days. Complications such as infaracts are seen in migraineurs, but not in PMVA. In general, patients suffering from this problem complain of positive visual symptoms varying from simple, unformed disturbances to complex ones. The classical complaint is seeing “snow flake” or “TV static”, but other manifestestations were described. The pathophysiology is unknown, although it is thought to involve neurovascular changes.

CASE REPORTS:
Patient #1: 24 yo woman
1 ½ yr “TV static”, sudden onset & constant.
• Heat waves & tiny flashes of light. Initially yes to plain background (wall or sky).
• Associated palpitations, blurry vision OU, & photophobia.
• Chloroquine recently started for malaria prevention.
• New onset migraine headaches one month prior to exam. PMH negative.
• Neuro-ophthalmologic examination completely normal.
• MRI/MRA of brain, EEG, VEP, & ECG were normal.
• Anxiety, no other abnormal rheumatologic investigation.
• sx persisted after d/c of chloroquine and BCP.
• Sumatriptan alleviated the h/a, but no change in the visual complaints.

Patient #2: 62 yo woman
7-8 yrs visual complaints.
• “Chinese characters” involving entire VF & positive white scotoma.
• Six resolved for a month, then one recurrent similar episode.
• SX-free many yrs until 6 months prior to her visit.
• Sx infrequent initially but became daily.
• Intermittent “TV static” in a very specific horizontal pattern.
• FE positive for migraine h/a in mother, brother & one ancestry.
• Neuro-ophthalmologic examination normal.
• MRI of brain normal; carotid doppler showed 66-79% stenosis bilaterally.
• Little improvement on trial of Vynorin.

Patient #3: 21 yo woman
Abrupt onset of “moving, flickering or jumping” of images in VF OU.
• “TV snow” in front of all images with eyes open or closed.
• Problems started 2 weeks after initiating Prozac.
• No benefit with d/c of all OTC medicines, caffeine & Prozac.
• Reported occasional head discomfort.
• Hemiparesis attacks absent.
• Neuro-ophthalmologic examination normal.
• Single VSM periventricular hyperintensity over R parietal lobe.
• MRI of brain, MRA of head, TSH, B12, ANA, ESR were normal.

Patient #4: 27 yo man
2 yrs continuous “static” or “snow”, entire VF OU.
• Photopsia of flickering on and off, progressively worse.
• Lightening bolts in periphery of VF OU; come and go.
• H/o migraine headaches w/visual aura, last h/a 20 yrs previously.
• 12 yr h/o photos & photophobia w/ balance problems & vertigo.
• Neuro-ophthalmologic examination normal.
• MRI/MRA of brain, MRA of neck, VEP, EEG, TEE, HVF, B12, CRP, RPR, TSH, VMA all normal.
• No relief with trial of Medrol, topiramate, & verapamil, but photopsias stabilized on latter.

Patient #5: 26 yo man
Abrupt onset “snowy vision” Δ age 18.
• Constant “static-like” “snow”, very fine in size, variable in intensity.
• Tinutis, centrally inside head rather than in ears.
• H/a injury age 13 yrs w/ one isolated seizure.
• No relief with trial of Medrol,
• Sx persisted after d/c of chloroquine and BCP.
• Sumatriptan alleviated the h/a, but no change in the visual complaints.

Patient #6: 47 yo man
2 yrs continuous “static” or “snow”, entire VF OU.
• Photopsia of flickering on and off, progressively worse.
• Lightening bolts in periphery of VF OU; come and go.
• H/o migraine headaches w/visual aura, last h/a 20 yrs previously.
• 12 yr h/o photos & photophobia w/ balance problems & vertigo.
• Neuro-ophthalmologic examination normal.
• MRI/MRA of brain, MRA of neck, VEP, EEG, TEE, HVF, B12, CRP, RPR, TSH, VMA all normal.
• No relief with trial of Medrol, topiramate, & verapamil, but photopsias stabilized on latter.

Patient #7: 21 yo woman
2 yrs progressive, bilateral & unremitting “visual snow”.
• 20-30 min of migrating, vescillating scotoma starting in the R lower visual field expending to involve his central vision.
• Alcohol exacerbates symptoms.
• Neuro-ophthalmologic examination normal.
• MRI of brain normal.
• Chlorzepam & Lexapro for anxiety and depression; no change in his visual sx.

Patient #8: 75 yo man
7-8 yrs visual complaints.
• Blue and red “Chinese characters” involving entire VF & positive white scotoma.
• Sxs resolved for a month, then one recurrent similar episode.
• Sx-free many yrs until 6 months prior to her visit.
• Sx infrequent initially but became daily.
• Intermittent “TV static” in a very specific horizontal pattern.
• FE positive for migraine h/a in mother, brother & one ancestry.
• Neuro-ophthalmologic examination normal.
• MRI of brain normal; carotid doppler showed 66-79% stenosis bilaterally.
• Little improvement on trial of Vynorin.

Patient #9: 21 yo woman
Abrupt onset of “moving, flickering or jumping” of images in VF OU.
• “TV snow” in front of all images with eyes open or closed.
• Problems started 2 weeks after initiating Prozac.
• No benefit with d/c of all OTC medicines, caffeine & Prozac.
• Reported occasional head discomfort.
• Hemiparesis attacks absent.
• Neuro-ophthalmologic examination normal.
• Single VSM periventricular hyperintensity over R parietal lobe.
• MRI of brain, MRA of head, TSH, B12, ANA, ESR were normal.

CONCLUSIONS:
1-Persistent migrainous visual aura (PMVA) is characterized by a constellation of positive visual symptoms.
2-Migrainous changes in neuronal and vascular function are proposed as a mechanism of the disease.
3-Tests of brain imaging and retinal function are consistently normal.
4-The treatment of PMVA with several anti-convulsants, diuretics, calcium channel blockers and steroids has been disappointing.
5-The patients needed several visits to neurologists and ophthalmologists without a clear diagnosis established.
6-The fact that seven patients were seen in a short time raises the possibility that it can be more prevalent than it is thought.

REFERENCES: