Aripiprazole Induced Pigmentary Retinopathy and Subsequent Nyctalopia: Clinical Diagnosis and Management

This case demonstrates a unique presentation of bilateral pigmentary retinopathy in a schizophrenic with corresponding nyctalopia and peripheral visual field loss secondary to long-term dosage of the atypical anti-psychotic aripiprazole.

I. Case History

- 55-year-old AAM new patient with entering complaints of decreased night vision for five years, with significant progression for the past two years. Patient also notes decreased peripheral vision, especially at night.
- No significant family ocular/medical history
- Ocular History: mild refractive error
- Medical history: schizophrenia, Type 2 Diabetes Mellitus, GERD, hypertension, Vitamin D deficiency, hyperlipidemia, and eczema
- Current medications: atorvastatin, cetirizine, glipizide, lisinopril, metformin, pantoprazole, and tamsulosin
- Noteworthy previous medications: aripiprazole, quetiapine, haloperidol, and fluphenazine

II. Pertinent findings

- Clinical Findings
  - BCVA: 20/25 NIPH OD/OS
  - Pupils, CVFs, and EOMs normal both eyes
  - IOP with Goldmann tonometry: 16 mmHg both eyes
  - Biomicroscopy: unremarkable both eyes
  - Fundoscopy: healthy optic nerve with mild cupping and distinct borders; flat macula with even pigmentation; no abnormal vasculature; diffuse RPE hyperplasia in posterior pole and extending peripherally with multiple patchy areas of hypopigmentation OU
  - Clinical Testing
    - Color Vision: Ishihara 14 plate – normal OU
    - Cirrus OCT
      - Macula: normal foveal contour, no thinning OU
      - RNFL: normal thickness 360 OU
    - FAF Fundus Photography: enhanced viewing of RPE hyperplasia both eyes; no maculopathy
    - Humphrey Visual Field 24-2: (baseline) reliable; generalized depression with scattered, random, peripheral depressions both eyes.
    - Fluorescein Angiography: pending results
    - ERG: pending results
  - Laboratory studies
    - RPR – non-reactive, ESR – 5
Pending results for: Vitamin A, Lyme Confirmation Panel, Quantiferon Gold, ANA, and ACE

III. Differential diagnoses
- Congenital/Hereditary: Retinitis Pigmentosa, Usher Syndrome
- Infectious: syphilis, rubella, Lyme disease, Tuberculosis, and sarcoid
- Toxicity: typical antipsychotics (chlorpromazine, thioridazine) have known ocular toxicity effects. Newer, atypical anti-psychotics have few documented cases with reported ocular side effects.

IV. Diagnosis and discussion
- Confirmed laboratory results indicate that infectious disease can be ruled out as a contributory factor in this case.
- The patient’s medication history was significant for the use of typical and atypical anti-psychotic medications. Atypical anti-psychotics aripiprazole (four years) and quetiapine (three years) were the only prominent long-term therapies utilized in treatment.
- Though aripiprazole treatment has ceased, the patient was on long-term therapy for four consecutive years. Initiation of the medication aligns with the patient’s reported onset of symptoms.

V. Treatment, management
- Current literature demonstrates notable improvement in signs and symptoms with discontinuation of medication; however, there is little documentation to determine sustained effects of atypical anti-psychotics from previous use.
- At the time of examination, the patient had already discontinued aripiprazole; thus, treatment and management was focused on improving patient symptoms and monitoring for further progression of retinal toxicity.

VI. Conclusion
- A detailed history, including the patient’s medical history and current and past medication list, was crucial in diagnosis and management of the patient’s visual complaints and corresponding posterior segment findings. Ocular pigmentation, including pigmentary retinopathy, related to typical anti-psychotic drug therapy is well documented in the literature. There are insufficient case reports related to aripiprazole (atypical anti-psychotic) induced ocular toxicity in the current literature. Associated retinal toxicity should be considered and monitored in patients receiving atypical anti-psychotic medical therapy.