patient was referred to the Neurology Dept., where imaging tests were performed (computerized tomography and magnetic resonance), as well as lumbar puncture, being subsequently diagnosed with intracranial hypertension secondary to central nervous system infiltrated by BL. The patient was referred to the Oncology Dept. for study and treatment.

To conclude, even though BL is infrequent it should be taken into account in the differential diagnostic of papilledema in children in our environment.

Fig. 2 – Left ocular fundus: papilledema with peripapillary hemorrhages in all quadrants and hard exudates.

REFERENCES

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2173-5794/$ – see front matter  
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Differential diagnosis of visual hallucinations☆

Diagnóstico diferencial de las alucinaciones visuales

Dear Editor,

Hypnic hallucinations are a type of physiological hallucinations associated to sleep, including hypnagogic and hypnopompic hallucinations. Pre-sleep or hypnagogic hallucinations are visual, auditory or tactile and occur just after the beginning of deep sleep, in phases 3 and 4 of non-REM sleep. In this twilight zone between awareness and sleep, the subject believes he is awake and sees, hears or feels something around him but, due to the inhibition induced in the spinal chord by the brain cortex, he is unable to move. Hypnopompic or post-sleep hallucinations appear when the subject is waking up and is in a condition that does not allow him to distinguish objective reality and therefore perceives these hallucinations as real.

Hypnic hallucinations can occur with greater frequency in young people without previous ophthalmological disease, with the most frequent being tactile, auditory or related to sensations. Hypnagogic hallucinations are usually associated to some diseases (narcolepsy, familial sleep palsy, among others) and hypnopompic hallucinations mostly occur in isolation.

We present the case of a male patient, 75, referred due to experiencing visual hallucinations. He referred seeing houses with people going in and coming out, in color, starting about

☆ Please cite this article as: Dupré-Peláez M, Santos-Bueso E, García-Sánchez J. Diagnóstico diferencial de las alucinaciones visuales. Arch Soc Esp Oftalmol. 2015;90:397–398.
Table 1 – Differential diagnostic of visual hallucinations.

<table>
<thead>
<tr>
<th>Category</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuro-ophthalmic diseases</td>
<td>Charles Bonnet syndrome</td>
</tr>
<tr>
<td>Physiological hallucinations</td>
<td>Hypnagogic and hypnopompic hallucinations</td>
</tr>
<tr>
<td>Neurodegenerative diseases</td>
<td>Vascular dementia, Alzheimer’s disease, Parkinson’s disease, Lewy bodies disease, Frontotemporal dementia, Lhermite’s hallucinosis</td>
</tr>
<tr>
<td>Psychiatric diseases</td>
<td>Schizophrenia, Psychosis, Delirium, Narcolepsy</td>
</tr>
<tr>
<td>Neurological diseases</td>
<td>Migraine, Epilepsy, Narcolepsy</td>
</tr>
<tr>
<td>Organic causes</td>
<td>Hypophysis tumors, occipital injuries</td>
</tr>
<tr>
<td>Toxic-metabolic encephalopathies</td>
<td>Infections, organic insufficiencies (hepatic)</td>
</tr>
<tr>
<td>Pharmacological Drug abuse</td>
<td>Levodopa, Brimonidine, Opiates, Alcohol</td>
</tr>
</tbody>
</table>

3 years earlier and with a frequency of once or twice a month, just before falling asleep. The patient did not exhibit personal or familial history of interest, or known allergies to any drugs. Exploration gave a visual acuity of 0.6 in both eyes. Biomicroscopy revealed phacomacia in developments in both eyes. Extrinsic and intrinsic ocular motility and intraocular pressure were normal, as well as the eye fundus. The patient was diagnosed with hypnagogic hallucinations after the Neuroophthalmology Dept. discarded other causes for hallucinations, mainly those associated to the Charles Bonnet syndrome (CBS).

The most common etiologies for visual hallucinations are dementia and delirium, particularly in geriatric patients. Diseases such as Alzheimer’s, Parkinson’s or Lewy bodies disease should be included in differential diagnostics together with retinal degeneration, cerebrovascular accidents, abuse of psychoactive substances or psychiatric diseases (Table 1). In what concerns CBS, visual deterioration should be evident in most cases and therefore it occurs with greater frequency in elderly patients exhibiting age-related macular degeneration or glaucoma, most hallucinations being visual (even though CBS cases have been described with associated auditory or tactile hallucinations).³

The present clinic case aims at emphasizing the importance of adequate anamnnesis when assessing a patient with visual hallucinations in cooperation with neurologists and psychiatrists in order to reach the right diagnostic, thus avoiding unnecessary tests and treatments.

**REFERENCES**


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