CASE REPORT

Grouped Pigmentation in the Peripheral Retina

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Pigment spots are frequently found during ophthalmoscopic examination. Differential diagnoses to be considered include: retinal pigment epithelium (RPE) hypertrophy, choroidal nevus, choroidal melanoma, melanocytoma, true hyperplasia of RPE, inflammatory pigmented fundus lesions, and pigmented colobomas. Table 1 summarizes methods for deciding on the possible cause for the pigmented area and its possible course.

Case Report
While scanning the peripheral retina on a routine eye examination, a colleague observed an innocent-looking pigment spot in a young male. For this patient, the pigment spot represented the "tip of the iceberg". The extent of the pigmentary irregularity was revealed during dilated direct and indirect ophthalmoscopic examination. Serial photographs

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Occurrence</th>
<th>Potential For Malignancy</th>
<th>Cell Primarily Involved</th>
<th>Colour</th>
<th>Uniform Pigmentation</th>
<th>Distinct Margin</th>
<th>Elevation</th>
<th>Visual Field Loss</th>
<th>Progression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retina pigment Epithelium (RPE) Hypertrophy</td>
<td>1:1000¹</td>
<td>-</td>
<td>RPE</td>
<td>Dark, Black</td>
<td>++</td>
<td>+++</td>
<td>-</td>
<td>-/+</td>
<td>-</td>
</tr>
<tr>
<td>Choroidal Nevus</td>
<td>1:3³</td>
<td>+</td>
<td>Choroidal Melanocytes</td>
<td>Slate gray, greenish, bluish Variable</td>
<td>+</td>
<td>-/+</td>
<td>-/+</td>
<td>-/+</td>
<td>-/+</td>
</tr>
<tr>
<td>Choroidal Melanoma</td>
<td>21 per million per year (whites over 50)²</td>
<td>++</td>
<td>Choroidal Melanocytes</td>
<td>Variable</td>
<td>-</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Melanocytoma</td>
<td>rare</td>
<td>-</td>
<td>Choroidal Melanocytes</td>
<td>Black</td>
<td>+</td>
<td>+</td>
<td>+++</td>
<td>-/+</td>
<td>-/+</td>
</tr>
<tr>
<td>Hyperplasia of RPE</td>
<td>rare</td>
<td>-</td>
<td>RPE</td>
<td>Black</td>
<td>-/+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>(primary) Inflammatory pigmented fundus lesions</td>
<td>3 per 100,000 per year³</td>
<td>-</td>
<td>RPE</td>
<td>Black</td>
<td>-/age</td>
<td>~</td>
<td>+</td>
<td>-/+t</td>
<td>+</td>
</tr>
<tr>
<td>Pigmented Colobomas</td>
<td>Common⁴</td>
<td>-</td>
<td>RPE</td>
<td>Black</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

* There are some reports of a gradual enlargement (1000 μ in 10 years)¹  
** Choroidal Nevi rarely show growth² after the prepubertal years  
t depending on control of disease

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across the inferior retina have been combined to show how extensive this 'grouped' or 'Bear Track' pigmentation is. The largest group lay approximately 10-12 disc diameters inferiorly to the posterior pole. The rest of the exam was unremarkable.

This type of retinal disturbance is a benign pigment epithelial hypertrophy, is well circumscribed, flat and has black uniform pigmentation. These features distinguish it from other types of pigmented areas in the retina (Table 1). Histologically, areas of grouped pigmentation are found to contain unusually large (hypertrophic) RPE cells with many pigment granules.

The disposition for this patient is to describe, sketch and/or photograph the pigment disturbance in enough detail to monitor and assist in differential diagnosis.

Patients of this kind continue to reward and encourage all of us who pick up an ophthalmoscope to explore the peripheral retina.

References

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