## Answer to Ophthaproblem *continued from* ***page 1157***

### 2. Conjunctival nevus

A conjunctival nevus is a common, benign, melanocytic tumour of the conjunctiva. It usually appears in the first 2 decades of life. Conjunctival nevi appear as circumscribed, sesile, slightly elevated lesions; approximately half contain stromal cysts.[1] They are often located in the interpalpebral conjunctiva, close to the limbus, with no corneal invasion. The nevi can increase in size and change in colour during puberty or pregnancy.[2] Pathologic analysis of conjunctival nevi shows groups of benign melanocytes in the stroma near the basal layers of the epithelium.

In most cases of conjunctival nevi, patients present with an asymptomatic pigmented lesion that they want removed for cosmetic reasons.

Diagnosis is made clinically by slit lamp examination. A conjunctival nevus is typically left untreated; the only required management is observation. Pictures should be taken of the lesion every 6 to 12 months in order to detect any changes in size or colour.[1] During follow-up, if an increase in size is observed, the lesion should be removed. If the mass is excised as a therapeutic measure, the entire lesion should be removed using the non-touch technique (a type of excisional biopsy in which the conjunctival tumour is not touched).[1]

The risk of malignant transformation from a conjunctival nevus to a conjunctival melanoma is around 1%.[3] That said, 25% of conjunctival melanomas follow a conjunctival nevus.[4]

### Differential diagnosis

The differential diagnosis of a conjunctival nevus includes many lesions, some of which are important to discern in their early stages.

***Racial melanosis.*** Racial melanosis is a benign, bilateral condition found most frequently in darkly pigmented people and characterized by a flat conjunctival pigmentation. These lesions are generally seen at the limbus. Racial melanosis rarely evolves into a conjunctival melanoma.

***Primary acquired melanosis (PAM).*** Primary acquired melanosis is a benign, flat pigmented lesion of the conjunctiva, appearing unilaterally, typically occurring in white patients. It has poorly defined margins and is usually located near the limbus. In some reports, 75% of conjunctival melanomas arise from PAM.[5] If PAM is observed with atypical melanocytes, the risk of it evolving into a melanoma is 50%, and treatment is required. If no atypical melanocytes are found, there is a 0% chance of melanoma development; with periodic observation, the lesion can safely be left untreated.

***Ocular melanocytosis.*** Ocular melanocytosis is a congenital pigmentary condition involving the sclera, which appears as a gray, flat lesion. It usually does not involve the conjunctival tissue; however, it could be misdiagnosed as a conjunctival pigmentation. Ocular melanocytosis does not precede conjunctival melanoma.

***Conjunctival melanoma.*** A condition that commonly presents as a well-defined, elevated, pigmented lesion, conjunctival melanoma can be located anywhere on all the conjunctiva. Conjunctival melanoma usually affects white individuals of a median age of 62 years. Around 75% of conjunctival melanomas arise from PAM and almost all the rest from nevi. De novo primary conjunctival melanomas are very rare. Upon diagnosis, conjunctival melanomas should be differentiated from other types of melanomas, such as uveal melanomas and metastatic melanomas. Conjunctival melanomas are composed of variably pigmented malignant melanocytes in the conjunctival stroma. Treatment of primary conjunctival melanomas depend on their extent. They need to be surgically excised, ideally with 4-mm margins, followed by adjunctive cryotherapy.

**Table 1. Differential diagnoses among conjunctival melanocytic lesions**

| TYPE OF LESION | LOCATION | AGE OF ONSET | MORPHOLOGY | PROGRESSION |
|---|---|---|---|---|
| Nevus | Epithelial conjunctiva, unilateral | First to second decade | Well-defined, elevated | 1% progression to conjunctival melanoma |
| Racial melanosis | Epithelial conjunctiva, bilateral | Congenital | Poorly defined, flat | Rare progression to conjunctival melanoma |
| PAM | Epithelial conjunctiva, unilateral | Middle age | Poorly defined, flat | If atypical, 50% progression to conjunctival melanoma |
| Ocular melanocytosis | Sclera, unilateral | Congenital | Poorly defined, flat | 1% progression to uveal melanoma |
| Melanoma | Stromal conjunctiva, unilateral | Sixth to seventh decade | Well-defined, elevated | Prognosis differs depending on extent |

PAM—primary acquired melanosis.

## Conclusion

Management of pigmented conjunctival lesions varies, from periodic observation to excision with adjunctive therapy, depending on the diagnosis and prognosis of each. It is very important to differentiate among lesions; a summary of the differential diagnoses is available in **Table 1**.

Typically, conjunctival nevi are benign, pigmented, slightly elevated conjunctival lesions that appear in the interpalpebral bulbar conjunctiva close to the limbus during the first 2 decades of life. They have a low rate of malignancy in terms of conversion to conjunctival melanomas.

Conjunctival nevi only require periodic clinical observation (with photographs if possible). If there is any concern about tumour growth or change in pigmentation, excisional biopsy with histopathologic analysis should be performed.

**Dr Rayward** is an ophthalmology resident at the Hospital Clinico San Carlos in Madrid, Spain. **Dr Moreno-Martín** is a an attending ophthalmologist at the Hospital Infanta Sofía in Madrid. **Dr Vallejo-Garcia** is an attending ophthalmologist at the Hospital Universitario La Paz in Madrid. **Dr Vano-Galvan** is an attending ophthalmologist at the Hospital Universitario Ramón y Cajal in Madrid.

**Competing interests**
None declared

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