

# Pigmented lesion on the ear

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A 65-year-old farmer came to the office with a pigmented lesion on his left ear; the lesion had been there for about 2 years. He noticed different shades of black developing in the lesion during the previous 3 months.

On physical examination, we observed a 13 mm x 7 mm asymmetrical dark-brown-to-black papule, with pigment fading at its borders, on the lower helix of the patient's left ear. No ulceration was noted.

As an incidental finding, we noted accumulation of a yellowish waxy material in the left retroauricular area. The right ear was normal on examination, and no mucosal lesions were found. Lymph nodes of the retroauricular, submandibular, occipital, and supraclavicular areas were normal. An excisional biopsy was performed.

■ **WHAT IS THE DIAGNOSIS?  
HOW WOULD YOU MANAGE  
THIS CASE?**

**FIGURE 1** Pigmented papule on the ear



*An asymmetrical dark brown/black lesion was observed on the lower helix of the patient's left ear.*

■ **SUBMITTING IMAGES TO PHOTO ROUNDS**

Do you have images (slides, prints, digitized photos) of compelling clinical cases of interest to family physicians? We would like to publish them, along with a brief description of the clinical presentation and a diagnostic question for readers. The case should include information on the differential diagnosis and treatment, the latter applying an evidence-based approach supported by current references. Submit electronic files to [usatine@uthscsa.edu](mailto:usatine@uthscsa.edu), or send high-quality slides and prints to:

Submissions: Richard P. Usatine, Editor, Photo Rounds, University of Texas Health Sciences Center at San Antonio, Dept of Family and Community Medicine, MC 7794, 7703 Floyd Curl Drive, San Antonio, TX 78229-3900.

## ■ DIAGNOSIS: MALIGNANT MELANOMA

Our patient's excisional biopsy, which included 3-mm lateral margins, demonstrated clear architectural and cytological abnormalities consistent with superficial spreading malignant melanoma. Pronounced anisocytosis with prominent nucleoli and unevenly distributed melanin was noted, with atypical melanocytes extending into the papillary dermis. The Breslow thickness was 0.55 mm (Clark level II), and the TNM stage was T1a.

### Incidence of malignant melanoma

The incidence of malignant melanoma has more than tripled among Caucasians in the US over the last 40 years; it is the fastest-growing<sup>1</sup> and seventh most frequent cancer in the country.<sup>2</sup> The risk of developing malignant melanoma is expected to reach 1 in 50 by 2010,<sup>3</sup> increasing from 1 in 250 less than a quarter-century ago.<sup>1</sup> Elderly men are particularly at risk.

Roughly 20% of melanomas develop in the head and neck regions, and of these approximately 7% to 14% are located on the external ear.<sup>4</sup> Melanoma of the external ear most frequently develops on the left side (possibly due to increased sun exposure while driving), usually on the helix.<sup>1,4</sup> In a small series by Benmeir et al,<sup>4</sup> most patients reported having had an ear nevus whose features (size, color) began changing before diagnosis. Of note, only about one quarter of cutaneous melanomas are discovered directly by physicians.<sup>3</sup> Moreover, neoplasms in certain regions of the ear may easily go unnoticed, causing a delay in diagnosis and treatment.<sup>1</sup>

Lesions are generally found in peripheral areas of the ear and are usually the superficial spreading type; however, nodular melanoma predominated in 1 relatively recent series.<sup>7</sup> The lack of subcutaneous tissue on the external ear may contribute to the ease of invasion and poor prognosis identified in several reports.<sup>4,7</sup> Hudson et al<sup>8</sup> noted more deeply penetrating and thicker lesions at presentation on the external ear in comparison with malignant melanoma of other head and neck areas.

### Risk factors

Risk factors for developing malignant melanoma include intense intermittent sunlight exposure (primarily UVB) and blistering sunburns at an early age; skin types and certain ethnicities with limited tanning capability; personal or family history of melanoma; multiple nevi; and immunosuppression.<sup>3</sup> The vast majority of malignant melanomas arise de novo, although very rarely a nevus (usually a giant congenital melanocytic nevus) may undergo malignant transformation.<sup>3</sup>

### Differential diagnosis

The differential diagnosis of malignant melanoma includes atypical nevi, dermatofibromas, lentigos, basal and squamous cell carcinomas, keloids and hypertrophic scars, and seborrheic keratoses.<sup>2</sup>

## ■ MAKING AN ACCURATE DIAGNOSIS

### The ABCD approach

The ABCD approach to recognizing potentially malignant melanotic lesions is evaluation for Asymmetry, Border irregularity, Color variegation, and Diameter >6 mm (roughly pencil eraser size). Patients who report recent changes in the characteristics of existing nevi should be examined carefully.

### Biopsy, histology, dermatoscopy

Excisional biopsy and histologic examination are required for diagnosis, which is facilitated by histochemistry and immunohistochemistry techniques. Architectural criteria are of greater diagnostic significance than cytologic features, rendering fine-needle aspiration or curettage less helpful and unnecessary for diagnosis.<sup>3</sup> Before excision, corresponding areas of lymphatic drainage should be examined, and subsequently a full-thickness biopsy with 2- to 5-mm lateral margins should be performed.<sup>9</sup>

Dermatoscopy is an excellent noninvasive method for in vivo examination of suspected melanomas, being a potentially powerful resource for general practitioners and dermatologists alike. In this procedure, the suspected melanoma is

covered with mineral oil, alcohol, or water and viewed with a hand-held dermatoscope, which magnifies from 10 to 100 times, allowing visualization of structures at and below the skin surface. In comparison with clinical analysis, the sensitivity of dermatoscopic diagnosis is increased by 10% to 30%.<sup>3</sup>

## ■ MANAGEMENT: SURGICAL EXCISION AND SPECIAL CONSIDERATIONS

Difficulties in managing ear melanomas arise due to the ear's importance in daily functioning and to patient's cosmetic concerns. Initial reports of malignant melanoma of the external ear indicated a poorer prognosis compared with lesions in other areas,<sup>5,6</sup> but subsequent studies did not corroborate these findings.

### Surgical excision

Surgical excision is the standard of care for malignant melanoma. The World Health Organization recommends excision margins of 5 mm for in situ lesions, and 20 mm for melanomas >2.1 mm thick,<sup>10</sup> although treatment of external ear lesions must be individualized given the thin skin and various anatomic subdivisions of the ear. Pockaj et al<sup>1</sup> found margins of at least 10 mm to be associated with the lowest recurrence risk.

Several techniques have been employed in lesion excision and postexcisional defect repair, including wedge resection, partial and total auriculectomy, wide excision and skin grafting, and Mohs micrographic surgery.<sup>4</sup> Wedge resection was associated in 1 study<sup>8</sup> with significantly increased melanoma recurrence when compared with wide local excision using 10-mm margins or total auriculectomy.

Skin and subcutaneous tissue should always be excised, but perichondrium is generally spared unless involved with the tumor.<sup>1</sup> However, Narayan et al<sup>11</sup> suggested cartilaginous excision

**Melanomas thicker than 1 mm may require up to 4 annual visits during the first 2 years**

in melanomas >1 mm thick, regardless of the presence of tumor infiltration. Various types of flaps are used in reconstructing surgical defects.<sup>11</sup>

### Lymph node dissection

Elective lymph node dissection, as well as superficial parotidectomy in cases with suspected metastasis, have been performed; however, sentinel lymph node mapping can drastically reduce the morbidity associated with unnecessary lymph node dissection.<sup>12</sup> This technique has been shown to be of benefit in managing malignant melanoma of the ear due to its highly ambiguous and variable lymphatic drainage patterns.<sup>12</sup>

Sentinel node biopsy of the parotid gland can be performed as well with low morbidity and a high success rate.<sup>1</sup> Byers et al<sup>6</sup> suggested that neck dissections be reserved for patients with Clark level IV or V melanomas.

### Immunotherapies

Immunotherapeutic agents, including interleukin-2 and interferon alpha 2b, have recently become significant adjuvant therapies for malignant melanoma, and investigation into a potential melanoma vaccine is currently underway.<sup>3</sup> Consultations with surgical, medical, and possibly radiation oncology, nuclear medicine, and pathology may be needed in treating patients with malignant melanoma depending on tumor invasiveness and metastasis.

Evidence of metastatic spread should routinely be sought when examining patients. For patients with lesions <1 mm thick, close follow-up with biannual full-body skin examination is recommended for 2 years following excision, and subsequently each year for the next 8 years.<sup>3</sup> Melanomas thicker than 1 mm may require up to 4 annual visits during the first 2 years, followed by biannual and annual exams. Chest x-ray is recommended annually dur-

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ing the first 5 years for lesions <3 mm thick, and biannually for those >3 mm thick.<sup>3</sup>

### ■ THE PATIENT'S FOLLOW-UP

Our patient's lesion was very superficial. Following excisional biopsy, a wedge excision with appropriate 10-mm margins was performed by a plastic surgeon. The result of the chest x-ray was normal. The patient is scheduled for follow-up examination every 6 months for 2 years and yearly thereafter.

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