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Ethical Dilemma: Who Benefits From Calling an Atypical Junctional Melanocytic Proliferation a Melanoma In Situ?

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INTRODUCTION

In 2006, an article titled "Who benefits from calling a solar keratosis a squamous cell carcinoma" was published in the *British Journal of Dermatology*. The author, Robin Marks, expressed concern about the risks to patients and the broader community posed by overdiagnosing solar keratoses as true cancers.[1]

We wrote this article out of a similar concern, the risk to patients and the broader community posed by the overdiagnosis of atypical melanocytic lesions as melanomas.

In 2024, Lindsay et al published an article titled *"Estimating the magnitude and healthcare costs of melanoma in situ and thin invasive melanoma overdiagnosis in Australia."* The investigators estimated that approximately 22,600 to 24,000 melanomas may have been unnecessarily diagnosed and treated in 2021, resulting in a total cost of AUD $20.2 to 21.4 million. They also observed an increase in overdiagnosed melanomas from 2017 to 2021, suggesting a growing public health concern in Australia.[2]

Melanoma is a major global public health concern. Lentigo maligna (LM) is a melanoma in situ (MIS) that grows on chronically photodamaged skin, most commonly on the head and neck. According to a report from the American Cancer Society, there will be 107,240 new cases of melanoma in situ on the skin by 2025.[3] This raises the question: Is it necessary to excise all newly diagnosed MIS cases?

Half of all melanomas diagnosed in the United States are stage 0, also referred to as MIS.[4] Patients diagnosed with MIS or early invasive melanoma (stage I) have a relative survival rate of greater than 100%, indicating that their survival rate from all causes is higher than that of age-, sex-, and race-matched controls without melanoma.[5,6]

The Ethical Dilemma

An 85-year-old male presented with a longstanding pigmented macule on the left cheek, reportedly present for over 15 years. Upon clinical examination and history, the lesion was deemed suspicious for melanoma, and a biopsy was performed.

The patient inquired about the nature of the lesion and the appropriate course of action. As is often the case in dermatologic practice, this question implicitly reflected a deeper concern: whether the lesion represented cancer and posed a threat to the patient's life. The clinician's role, particularly in dermatologic surgery, is to provide both diagnostic clarity and therapeutic guidance. A biopsy was performed, and the pathology report, signed by the dermatopathologist, described an atypical junctional melanocytic proliferation (AJMP), consistent with early evolving melanoma in situ. Upon reviewing the report, the question arose: who ultimately benefits from labeling such lesions as early melanoma? This dilemma calls into question not only clinical decision-making but also broader implications in nomenclature and management.

In 1985, Ackerman published an article titled "No One Should Die of Malignant Melanoma," underscoring the importance of judicious diagnosis and treatment.[7] Can we prevent death in every patient with early evolving MIS?

Who is Defining Cancer Now ?

The American Association of Cancer Research defines cancer as a group of diseases characterized by uncontrolled cell proliferation. The Cancer Research Institute of the United Kingdom defines cancer as the uncontrolled division of abnormal cells, noting that some cancers eventually spread to other tissues.

The term cancer is now largely defined by specialists consulted by clinicians, rather than by the primary care providers patients initially approach for diagnosis and treatment. In effect, those entrusted by the community to address disease have assumed the authority to define it. However, the resulting definitions may not align with the community's understanding of illness. For example, an AJMP does not exhibit the aggressive behavior typically associated with conditions the public perceives as cancer, such as uncontrolled growth and tissue invasion.

It appears that the community-appointed advisors have decided, based on various in vitro investigations, that an AJMP, which previously had not been called a cancer, is now a cancer—early evolving melanoma in situ. In response to the fact that AJMP

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does not fit the criteria used by the community to define the disease, the pathologist predictably said that the community needs to change its definition, which is an eminently logical conclusion.

What's in a Name?

The pathological diagnosis makes it clear that "early evolving melanoma in situ" is considered cancer. This definition is now shaped by specialists consulted by clinicians, rather than by the primary providers patients initially approach.

In many Western countries, if a dermatologist clinically diagnoses a solar lentigo and treats it with cryotherapy, the government-funded health system or private insurance will not reimburse the procedure. However, if a lesion clinically diagnosed as a solar lentigo is biopsied and reported as melanoma in situ, insurance typically covers the biopsy, follow-up visit, and surgical excision based on the cancer diagnosis. As a result, clinicians and dermatopathologists receive higher reimbursement, even though the lesion itself is unchanged. The treatment, however, becomes more invasive. Who, then, benefits from this change in terminology?

If all that is being requested is a name change, then let us change the name. However, if that change is likely to lead to a substantial shift in clinical practice, then a bit more thought and preparation are required before moving forward.

The first goal of skin cancer control education programs is to teach professionals how to appropriately diagnose early skin cancer and treat it appropriately. Once that has been completed, it is then possible to induce members of the community to seek attention from professionals regarding lesions whose signs have made them aware of risk factors for cancer (public education). Do it the other way around, and you produce a potentially disastrous outcome.

To achieve this change, a huge public and professional education program is required. Who would benefit? Has anyone shown that treating all early evolving MIS reduced mortality (or even morbidity) due to a disease that the community calls cancer?

At the World Congress of Melanoma held in Athens in April 2025, a few lectures discussed the overdiagnosis of melanoma. This is now brought to our attention as clinicians.

Important Points

Over the last 40 years, the incidence of melanoma has rapidly increased. However, during this period, the rate of mortality from melanoma has changed only slightly and has declined in recent years, likely due to the development of effective therapies for advanced disease.[8] The recent improvement in mortality rates is not solely attributable to treatment. It is primarily due to a decreased incidence in younger cohorts and earlier diagnosis in older cohorts. This discrepancy has led to growing consideration that many melanoma diagnoses may have been cases of overdiagnosis.

Adamson et al found that melanoma overdiagnosis among White Americans was significant and increased over time, with an estimated 44,000 overdiagnosed in men and 39,000 in women in 2018. A large proportion of overdiagnosed melanomas are in situ cancers, indicating a potential focus for interventions.[9]

Cutaneous MIS, or 'stage 0 melanoma' according to the American Joint Committee on Cancer staging system (8th edition), is a collection of malignant melanocytes limited to the epidermis and epithelial adnexal structures, without microinvasion of the papillary dermis. Histologically, MIS can be classified into several subtypes and variants. Lentigo maligna and superficial spreading (SS) MIS are the most common subtypes, followed by rare entities, such as acral lentiginous (AL) MIS.[10]

LM is the most common variant of MIS. A 1990 to 2000 US national epidemiology study using the Surveillance, Epidemiology, and End Results cancer registry database found that LM was the most common subtype of melanoma in situ (79–83%), with its incidence increasing by 52% over the study period, as measured by annual percentage change.[11]

Of the 4692 MIS that were reported by the National Disease Registration Service in England in 2019, 1742 (37%) were LM, and the remaining 2950 (63%) were other types of MIS.[12]

Junctional melanocytic hyperplasia (JMH) refers to the proliferation of melanocytes along the dermoepidermal junction. JMH is not a clinical diagnosis but a histological definition. JMH generally refers to the proliferation of single melanocytes rather than nests of melanocytes. The histological diagnosis of atypical JMH is generally made when the proliferation is more than the simple JMH of a junctional or dysplastic nevus, but less than that of melanoma in situ. AJMP is a descriptive diagnosis used for melanocytic lesions that do not fully meet histopathologic criteria for MIS.[13] Okamura et al reported that benign atypical junctional melanocytic hyperplasia associated with intradermal nevi is a common finding that may be confused with MIS.[14] AJMP is often overtreated, particularly when 5 to 10 mm surgical margins are recommended. In elderly patients, close follow-up should be the preferred management approach, as the likelihood of progression to invasive melanoma is very low and typically takes years.

The diagnosis of melanoma is not without complications. Treatment includes surgery and systemic oncological treatment in advanced stages. Melanoma diagnosis is also associated

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with psychosocial consequences, such as anxiety, depression, fear of cancer recurrence, and harm from being labelled with a cancer diagnosis.

Mahama et al investigated lived experiences and fear of cancer recurrence among survivors of localized cutaneous melanoma.[15] Their qualitative and survey-based study found that, despite having an excellent prognosis, some survivors of localized melanoma, even those with stage 0 melanoma, experienced high levels of fear of recurrence and intense survivorship challenges that affected their psychological well-being.

To further illustrate our dilemma, we quote David Elder: "The conditions for overdiagnosis of melanoma due to over detection are represented by the presence of indolent lesions in the community, and efforts at early diagnosis, namely screening of asymptomatic individuals or "worried well," resulting in (over) detection of lesions that would not have caused death or symptoms in the lifetime of the host. Some of these may be indolent neoplasms that would progress slowly, whereas others, likely the majority, may have no capacity for progression."[16] Dr. Elder concludes an article by quoting Wallace H. Clark Jr., who stated in 1990: "The word melanoma can have a devastating impact on a patient and forever change the nature of his or her life. Patients from all walks of life, including physicians, are significantly affected by the diagnosis. However, this diagnosis should only be confirmed with rigorous evidence. Such evidence is not currently available for neoplasms in which the abnormal cells are entirely above the dermal-epidermal basement membrane."

How Should We Respond, for Now, to the Patient Who Presents With an Atypical Junctional Melanocytic Proliferation and Seeks Our Opinion?

When the clinical diagnosis is confidently a solar lentigo, it should be identified and managed as such. If there is uncertainty, a biopsy should be performed to rule out true melanoma. Based on the available evidence, patients should be informed that the likelihood of progression to a clinically significant melanoma within their lifetime is very low. Treatment may be offered upon patient request. Such treatment should be brief, minimally invasive, and cost-effective, aiming to remove the lesion with minimal tissue damage or disruption to the patient's quality of life.

Patients should be encouraged to become familiar with their skin, examine it regularly, and seek prompt medical attention if any of the discussed warning signs are observed.

CONCLUSION

We return to the beginning: individuals seek reassurance about conditions they have come to fear, often shaped by public perception more than pathology. Physicians exist to help maintain a healthy, functional life for as long as expected. That purpose should guide our response.

The reflections of an experienced Mohs surgeon and an elderly physician offer a sobering reminder. Rising litigation in many Western countries places physicians in a defensive posture, contributing to overdiagnosis. It is disquieting to consider that such diagnoses may be reinforced by systemic incentives that reward further intervention. The call to act conservatively is not a denial of care, but a reaffirmation of our duty to do no harm.

DISCLOSURES

The authors have no conflicts of interest to declare.

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