



CORRESPONDENCE AND COMMUNICATION

Basal cell carcinoma arising from nasal piercing: Cause or coincidence

Dear Sir,

We read with interest the letter by Khundkar and Wilson titled 'Basal cell carcinoma at the site of a nasal piercing'.¹ We report a case of basal cell carcinoma (BCC) arising from nasal piercing, which to our knowledge is the third such case to be described in English language publications.

The patient, a thirty-one-year-old female, presented to our clinic with an eighteen-month history of a lesion on her right ala. The lesion was at the site of her nasal piercing that was undertaken at the age of twenty. The lesion grew rapidly over the preceding six months and bled occasionally. She had no significant sun exposure, past medical history or family history.

The lesion measured 5 mm in diameter with overlying telangiectasia (Figure 1). The differential diagnosis was of a hypertrophic scar or a neoplasm. The lesion was biopsied. Histological examination confirmed a nodular, micronodular and infiltrative BCC. The patient has since had MOHS and bilobed flap reconstruction (Figure 2).

The main aetiological factor of BCCs is prolonged skin damage from ultraviolet radiation (UV), predominantly UVB. Patched gene (PTCH), important in the sonic hedgehog signalling pathway, and p53 are among the key genes implicated in BCC development due to irreparable genetic mutations. BCCs have also been known to develop on sites of old war injuries,² although squamous cell carcinomas (SCCs) are usually associated with Marjolin's ulcers. Body piercing is not commonly associated with the development of either BCCs or Marjolin's ulcers.

In the last 5 years, there were 44 patients under the age of 35 years with a total of 51 BCCs excised in the Tayside catchment area. Of the 44 patients, 36 (81.8%) were female. Thirty-one (60.8%) lesions were from the head and neck region, and eight of those were from the nose. None of the 51 BCCs documented a history of previous trauma, piercings or body modification to the area, except for the patient we describe. The Department of Dermatology

managed half of these lesions, whereas the Department of Plastic Surgery dealt with 37% of the cases. From the ongoing BCC audit of the Tayside Department of Plastic Surgery, approximately 400 BCCs are excised annually. Thus, our department encounters approximately one young adult with a BCC for every hundred BCCs excised. The incidence of nasal BCC in those aged under 35 years is therefore relatively uncommon.

Khundkar and Wilson¹ refer to another case of BCC arising from nasal piercing. Both cases were similar to our patient from a clinical history and demographic perspective. They were British women under the age of thirty-five, with a BCC developing at the site of nasal piercing around 10 years after piercing. It is not clear whether these BCCs arose de novo in a high risk area, or whether it was related to the trauma from nasal piercing. If it was the latter, then these malignancies could be considered Marjolin's ulcers.

Since its first description in 1823, Marjolin's ulcers are usually defined as skin malignancies arising from stable scar tissue, or chronically unstable wounds and scars. It tends to



Figure 1 Basal cell carcinoma on site of nasal piercing.



Figure 2 Post MOHS and bilobe flap.

present after a long latency period and is commonly associated with SCCs. It can also develop acutely.³ BCCs may occasionally arise from these wounds. In addition to the case of BCC developing on the site of frequent acupuncture in an earlobe 12 years from the start of the alternative therapy, referred to by Khundkar and Wilson,¹ a BCC has been reported to develop six years following tattooing on the scapular region.⁴

Known complications of body piercing are infections, keloids and allergic reactions. Tumours associated with piercing are rare.

Rieger et al.² proposed a link between grenade fragments and BCC development. One common factor in grenade fragments and piercing jewellery is steel. Steel usually contains chromium, nickel and occasionally cobalt, which have been implicated in oncogenesis on a molecular, histological and epidemiological level. They may alter the signal transduction of growth factor receptors and p53, for example, thus initiating tumour development, including non-melanoma skin cancer (NMSC). Rushton et al.⁵ reviewed occupation-related cancer deaths and identified solar exposure, arsenic, mineral oil and coal tar as risk factors for NMSC. Chromium, nickel and cobalt were

associated with epithelial cancers of the respiratory system. Is it possible that direct and prolonged contact with one or more components of steel in a sun-exposed area increases the risk of BCC development?

As the practice of body modification becomes more prevalent in society, it should be borne in mind that it is still tissue trauma. Despite its apparent rarity, it would be prudent to suspect a malignant lesion with a history of recent change at a site of previous body piercing, and biopsy with histological assessment should be considered.

Conflicts of interest

None.

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