

Localized acquired hypertrichosis on a miner's shoulder: case report

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ABSTRACT

Inflammation and local pressure are common causes of localized acquired hypertrichosis (LAH). The vast majority of cases of LAH in this category described in the literature occurred after the patient underwent surgery or injection or had to wear a plaster cast. Localized acquired hypertrichosis usually disappears over time once the causative agent has ceased. This case

report presents the case of a man who acquired LAH of terminal hair through inflammation and local pressure while working in mining for over 20 years. The statistical analysis showed no statistical difference between hair thickness from both shoulders. The photos show the hair under a scanning electron microscope. **Keywords:** hypertrichosis; hyperpigmentation; case report.

INTRODUCTION

Hypertrichosis is an excessive growth of hair that is not considered a male secondary characteristic and can be congenital or acquired. Localized acquired hypertrichosis (LAH) may be caused by, i.e., local pressure and inflammation [1]. The literature of the last 5 years describes cases of LAH caused by: erythema nodosum, undergoing surgery, blunt trauma, vaccination, and wearing a cast [2, 3, 4, 5, 6]. The report examines a case of a man who acquired LAH through inflammation and pressure while working in a mine, which makes this case unique compared to the existing literature.

CASE REPORT

A 48-year-old miner confirms that his right shoulder has been developing hypertrichosis since he started working in the mining industry 21 years ago (both shoulders are shown in Fig. 1a). The man has been carrying loads on his right shoulder, such as wooden beams and steel elements, weighing >50 kg (110 lbs). His right arm occasionally bled for approx. the first 3 years of work, and the skin was irritated. For about 7 years, the hair on the right shoulder has looked as it does today (Fig. 1b), and the skin is darker and rough, which indicates post-inflammatory hyperpigmentation (PIH) [7]. On the left shoulder, where the amount of hair is smaller, and the hyperpigmentation is less significant, the man has been carrying only a 10 kg (22 lbs) emergency kit (Fig. 1c). He has never used any ointments and has never taken any medications that could influence the development of hypertrichosis. He shaved both shoulders every 4–5 months for aesthetic reasons, but for this report, he had not shaved his terminal hair for 6 months.



FIGURE 1. (a) A photograph of both shoulders; (b) the right shoulder with localized acquired hypertrichosis and post-inflammatory hyperpigmentation is visible; (c) the left shoulder with a small amount of terminal hair and slight hyperpigmentation

An individual interview with the subject was conducted to obtain relevant information and establish these findings. The observed cutaneous alterations were compared with selected conditions, including LAH, localized congenital hypertrichosis (LCH), Becker's nevus (BN), skin cancer or tumors, and drug-induced effects. Table 1 presents a summary of the conditions evaluated in the differential diagnosis. Based on this assessment, the described changes were considered consistent with LAH.

TABLE 1. Comparison of potential medical conditions and rationale for exclusion

Possible medical condition	Brief description of the exclusion
Localized congenital hypertrichosis (LCH)	congenital forms typically manifest earlier in life and remain stable over time, whereas the subject did not exhibit excessive hair growth on the shoulder prior to commencing work in mining
Becker's nevus (BN)	the subject's skin hyperpigmentation did not correspond to the clinical presentation typically observed in BN (a well-defined brown patch), which usually appears from birth or during adolescence and remains stable over time
Local drug-induced effects (e.g., rivastigmine, minoxidil)	the interview excluded the use of ointments or medications known to induce excessive hair growth
Skin cancer/tumors accompanied by hypertrichosis	the interview ruled out any history or presence of skin cancer or tumors

As the next step, the subject's hair was cut off near the skin from both shoulders. A few strands were randomly selected from the samples and imaged using a scanning electron microscope. Figure 2a shows a strand from the left shoulder, approx. 65 μm wide at the base. Figure 2b shows a strand from the right shoulder, approx. 110 μm wide at the base. The mean value of the hair width was estimated under an optical microscope. The average hair width on the left shoulder ($n = 28$) was 70.28 μm , while on the right shoulder ($n = 29$) it was 75.74 μm , with no statistically significant difference between them (Mann-Whitney U-test: $U = 346$, $p = 0.345$). A few strands from the right shoulder exceeded a diameter of 110 μm , as hypertrichosis may co-occur with thicker hair shafts [8].

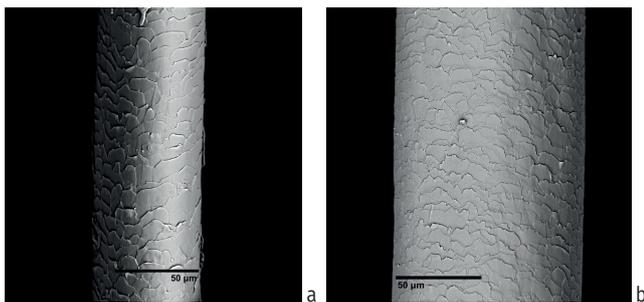


FIGURE 2. (a) An image of a hair from the left shoulder at its widest point at the base; (b) an image of a hair from the right shoulder at its widest point at the base

DISCUSSION

The patient has been carrying heavy and rough things on the right shoulder, which led to skin irritation, local pressure, and inflammation that caused LAH. Due to the continuous nature of his work, LAH has not disappeared, unlike in the majority of reported cases, in which hypertrichosis declines over time [3, 4, 9]. The case of intense LAH can be compared with the ones described more thoroughly in the article by Ressmann and Butterworth, which provides examples of more persistent and intense LAH caused by constant self-biting [10]. In this patient, LAH co-occurs with some of the terminal hair thickening on the right arm; however, no statistical difference has been observed between the mean values of the hair width at each shoulder.

One of the main approaches to LAH management is the elimination of the triggering factor. In this case, due to their work in mining, the subject managed the condition by shaving the affected area. The subject agreed to continued follow-up after retirement from mining, which may provide valuable insight into the time required for LAH to resolve following long-term exposure to the causative factor.

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