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Quality of life in individuals with auricular keloids

Qualidade de vida nos portadores de queloide auricular

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ABSTRACT

Background: Keloids are abnormal proliferations of scar tissue that do not regress spontaneously. Studies on the quality of life in patients with auricular keloids are rare. This condition is a frequent complaint, occurring in a highly visible area.

Objective: To assess the impact of auricular keloids on the quality of life of affected individuals, demonstrating that psychological and physical symptoms are common and significantly affect patients.

Methods: This is a cross-sectional, observational analytical study conducted in São Paulo. Patients with auricular keloids completed the QualiFibro questionnaire, a validated tool specific for assessing quality of life in individuals with auricular keloids.

Results: Seventeen patients with auricular keloids were analyzed. The questionnaire revealed that most participants experienced some degree of physical impairment (76% reported itching, and 58% reported pain in their keloids). All participants showed psychological distress to varying degrees.

Discussion: Patients often associate their keloids with feelings of shame and low self-esteem. We believe that raising awareness of the negative psychological impact of this condition can help dermatologists better understand these patients' concerns and provide empathetic support, aiming to make them feel more comfortable in their own skin.

Keywords: Keloid; Quality of Life; Ear Auricle.

RESUMO

Introdução: *queloides são proliferações anormais de tecido cicatricial que não regridem espontaneamente. São raras as investigações sobre a qualidade de vida em pacientes com queloide auricular. Trata-se de uma queixa frequente e localizada em um sítio de grande visibilidade.*

Objetivo: *avaliar o impacto dos queloides auriculares na qualidade de vida de seus portadores, a fim de demonstrar que sintomas psicológicos e físicos são frequentes e impactantes para os pacientes.*

Métodos: *trata-se de um estudo analítico observacional do tipo transversal conduzido em São Paulo. Pacientes com queloide auricular responderam ao questionário QualiFibro, validado e específico para o tema.*

Resultados: *foram analisados 17 pacientes com queloide auricular. O questionário evidenciou que a maioria dos participantes apresentou algum grau de prejuízo físico (76% dos pacientes reportaram prurido e 58% reportaram dor em seus queloides). Todos os participantes apresentaram prejuízo psicológico em graus variados.*

Conclusão: *os pacientes frequentemente relacionaram seus queloides a sentimentos de vergonha e baixa autoestima. Acreditamos que trazer visibilidade para a repercussão psicológica negativa desta patologia pode auxiliar o dermatologista a compreender melhor os anseios destes pacientes e acolhê-los empaticamente, com o objetivo de fazer com que eles se sintam mais confortáveis em sua própria pele.*

Palavras-chave: *Queloide; Qualidade de Vida; Pavilhão Auricular.*

Original Article

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INTRODUCTION

The first description of a keloid related to surgical trauma was found in a papyrus dating back to 1700 BC. In 1806, Alibert coined the term "keloid," derived from the Greek word "khelé," meaning crab pincers, due to the lateral growth of the tissue toward unaffected skin.[1] Keloids are abnormal proliferations of scar tissue that form during the healing process in predisposed individuals and can cause symptoms such as pain, discomfort, itching, and even movement restriction. They appear as benign fibroproliferative tumors, with varying colors (ranging from erythematous to erythemato-brownish), elastic to firm consistency, smooth surface, and sometimes may present focal ulcerations. Keloid growth does not regress spontaneously and extends beyond the original scar margins, rarely invading subcutaneous tissue. Keloids should not be confused with hypertrophic scars, which are also raised but do not grow beyond the original boundaries and may regress over time. Keloids occur only in humans, typically appearing between the ages of 10 and 30, with no gender prevalence, and affect 5 to 15% of scars.[2] They are more common in individuals with darker skin types, affecting up to 16% of this population.[3] Keloids are more frequently found on the earlobes, anterior chest, anterior neck, shoulders, arms, and in wounds that are perpendicular to skin tension lines[4], with earlobes being the most affected site.[5] Although the exact pathophysiology of keloid formation remains unknown, it is believed that an imbalance between the anabolic and catabolic phases of the healing process leads to increased collagen production compared to its degradation.[6,7] The most important risk factor for keloid development is secondary intention healing, especially when healing takes longer than three weeks. Other risk factors include wounds with prolonged inflammation (due to foreign body reactions, infections, or burns), genetic predisposition, and individual susceptibility to form keloids.[8,9] Auricular keloids are mainly associated with earring use and thermal burns, affecting the helix, antihelix, and earlobes. There has been a recent increase in keloid incidence following piercings, particularly in the auricle of young individuals with darker skin types.[10,11] The incidence of auricular keloids is 2.5% for all ear piercings, and ear piercings after the age of 11 are associated with a higher incidence of keloid formation. Keloids may also arise after drainage of auricular hematomas, auricular trauma repair, or as secondary recurrences after the excision of pre-existing keloids.[12,13]

There are various treatment modalities, but none are consistently more effective than others, and recurrence rates are high. Combined treatments seem to be more effective, with lower recurrence rates compared to monotherapy.[14] Since there are no guidelines for keloid treatment, efforts are made to find therapies with the lowest recurrence rates, as these lesions can cause aesthetic and functional alterations, significantly impacting individuals' quality of life.[6, 7, 15] Auricular keloids are a frequent complaint in dermatology clinics, yet studies on the quality of life in individuals with auricular keloids are rare. The aim of the present study was to investigate the impact of auricular keloids on the quality of life of affected individuals, aiming to measure the severity and physical and psychological repercussions on these patients.

MATERIALS AND METHOD

An observational analytical cross-sectional study was conducted at Unidade de Cosmiatria e Cirurgia Oncológica (UNICCO), Universidade Federal de São Paulo, located in the city of São Paulo. The primary objective of the study was to assess the impact of auricular keloids on the quality of life of affected individuals using the QualiFibro questionnaire (Figure 1), validated for this purpose. The project was approved by the Teaching and Research Coordination of Hospital São Paulo (Protocol 242/2016) and the Human Research Ethics Committee (CEP-UNIFESP) (Protocol 0797/2016). All participants signed an Informed Consent Form to participate in the study. The study population was a non-probabilistic sample of individuals with auricular keloids treated at our clinic, of both sexes, aged 12 to 60 years, who signed the informed consent regarding the procedure to answer the questionnaire. Recruited patients underwent a medical consultation to analyze demographic and clinical parameters, followed by self-administration of the QualiFibro questionnaire. Exclusion criteria included patients with uncontrolled clinical, neurological, or psychiatric conditions or those who had difficulties understanding the study's objectives. Demographic parameters (sex, age, skin type, place of birth, and residence), keloid location, pain (on a scale from 0 to 10), itching (on a scale from 0 to 10), presence of ulceration, and size of the auricular keloid were collected. Next, patients were instructed to complete the QualiFibro questionnaire (Table 1), a validated tool by Bock et al.[16] and translated into Portuguese by Furtado *et al*.[17] for patients with fibroproliferative scars. QualiFibro is a specific, self-administered questionnaire consisting of 14 items that cover physical and psychological domains. The psychological domain includes items 3, 5, 7, 9, 10, 11, 12, 13, and 14, while the physical domain is assessed through items 1, 2, 4, 6, and 8. There is also a question regarding suicidal intent (item 15). Based on the answer selected, each item can receive one of the following scores: -5, -3, -1, +1, +3, or +5. The closer the score is to +5, the greater the impact of the keloid on the patient's life, indicating a poorer quality of life.

Specific quality of life assessment questionnaires can measure the severity and progression of physical and psychological repercussions in patients' lives, as well as the outcomes of therapeutic interventions. To calculate the final scores, an arithmetic mean of the obtained values was used, separating the questions related to physical aspects from those related to psychological aspects.

RESULTS

This study included 17 patients, consisting of 7 women and 10 men, aged between 15 and 57 years (with an average age

Table 1: Complete results of the questionnaire

	Completely false (-5)	False (-3)	Somewhat true (-1)	Almost true (1)	True (3)	Completely true (5)	Average score (-5 a +5)
1. Changes In weather greatly affect my scars (pain, tension)	6 (35%)	4 (23%)	2 (12%)	2 (12%)	2 (12%)	1 (6%)	-1.82
2. My scars limit my movements	11 (65%)	3 (17%)	2 (12%)	0 (0%)	1 (6%)	0 (0%)	-3.70
3. I can ignore how people look at me because of my scars	6 (35%)	0 (0%)	1 (6%)	3 (17%)	1 (6%)	1 (6%) -0.05	6 (35%)
4. Itching from my scars frequently bothers me	4 (23%)	0 (0%)	1 (6%)	2 (12%)	4 (23%)	4 (23%)	+0.41
5. Sometimes I feel ashamed to be sexually active due to my scars	6 (35%)	2 (12%)	1 (6%)	1 (6%)	2 (12%)	5 (30%)	-0.29
6. I find it hard to endure the itching in my scars	6 (35%)	5(30%)	0 (0%)	2 (12%)	2 (12%)	2 (12%)	-1.58
7. I avoid letting people close to me know that I have scars	4 (23%)	3 (17%)	0 (0%)	3 (17%)	0 (0%)	7 (41%)	+0.64
8. When my scars itch, I can't stop scratching them	6 (35%)	2 (12%)	3 (17%)	0 (0%)	2 (12%)	4 (23%)	-0.76
9. I don't feel physically attractive or sexually desirable when I think about my scars	3 (17%)	3(17%)	2 (12%)	1 (6%)	4 (23%)	4 (23%)	+0.41
10. I find it hard to accept my scars	1 (6%)	4 (23%)	2 (12%)	2 (12%)	3 (17%)	5 (30%)	+1.00
11. I avoid swimming pools or beaches because others might find my scars disgusting	9 (53%)	3 (17%)	2(12%)	1 (6%)	1 (6%)	1 (6%)	-2.76
12. I never feel embarrassed or ashamed because of my scars	6 (35%)	3 (17%)	1 (6%)	3 (17%)	2 (12%)	2 (12%)	+1.23
13. I have less self-confidence because of my scars	4 (23%)	2(12%)	1 (6%)	4 (23%)	3 (17%)	3 (17%)	+0.05
14. I don't feel comfortable when asked about my scars	0 (0%)	2 (12%)	4 (23%)	1 (6%)	6 (35%)	4 (23%)	+1.70
15. I have thought about committing suicide because of my scars	14 (82%)	2 (12%)	0 (0%)	0 (0%)	0 (0%)	1 (6%)	-4.17

of 25 years), all from São Paulo city. There was a predominance of higher skin types, with 88% of the patients having skin type III or above. The size of the keloids ranged from 0.5 to 5 cm on the longest axis, with an average size of 2.3 cm. The most affected area was the earlobe (82%), with a predominance of posterior location (65%) and left side (66%). None of the patients had ulcerated keloids. Regarding the pruritus scale for keloids, which ranged from 0 (no itching) to 10 (maximum itching), the average response was 4.58. Thirteen patients (76%) reported experiencing some degree of itching in their scars, with three of them indicating maximum itching. In terms of the pain scale, more than half (58%) of the patients reported feeling some degree of pain in their scars, with an average score of 3.52. In the analysis of the QualiFibro questionnaire responses, the physical domain had an average score of -1.49, with values ranging from -5 (least impact) to +4.6 (greatest impact), indicating a highly heterogeneous group. In the psychological domain, the average score was +0.20, with individual scores ranging from -4.55 to +4.55. Almost all patients denied having ever considered suicide; however, one patient reported having seriously considered suicide (score +5) due to their keloids.

DISCUSSION

This study highlighted the wide range of symptoms experienced by individuals with auricular keloids, particularly their impact on self-esteem and body image. Most patients scored significantly on the psychological impairment aspects of the QualiFibro questionnaire, demonstrating a link between auricular keloids and feelings of shame, difficulty with self-acceptance, low self-esteem, and even issues in their sexual lives. In terms of physical symptoms, most patients reported that their auricular keloids did not restrict their movements, which is expected given the anatomical location. However, itching was the most prominent physical complaint, affecting most cases. Patients with auricular keloids suffer similarly to those with other chronic skin conditions. The decline in their quality of life is often driven by stigmatization, which, in many cases, is more significant than the physical condition itself. In this study, we observed that most patients experienced more psychological than physical impairment. This is the first study to evaluate the quality of life using the QualiFibro questionnaire specifically applied to patients with auricular keloids. We believe that studying the quality of life in this population is crucial due to the potential impact of this condition on patients' work, academic lives, and interpersonal relationships. The limitations of this study include the small number of participants, allowing only descriptive analysis. A larger sample size would enable inferential data analysis. Moreover, this was a cross-sectional and observational study. Future research should focus on interventional and prospective studies, assessing the quality of life before and after reparative therapy. Treating auricular keloids remains challenging, often requiring combined treatment for better therapeutic outcomes.[18] We believe that effective treatment can substantially improve the quality of life of patients with auricular keloids, underscoring the need for further studies.

CONCLUSION

Despite the variability in symptoms, all patients associated their keloids with some degree of negative impact on their quality of life. Dermatologists should recognize the importance of providing empathetic support and attentive listening when managing this condition, as patients often present with distressing psychological and somatic symptoms, significantly affecting their quality of life. ●

REFERENCES:

1. Alibert P J L. Quelques recherches sur la cheloide. Mem Soc Med d'Emul. Paris: Migneret, Cbochard et Gabon,1817;744-52.
2. Shridharani SM, Magarakis M, Manson PN, Singh NK, Basdag B, Rosson GD. The emerging role of antineoplastic agents in the treatment of keloids and hypertrophic scars: a review. Ann Plast Surg. 2010;64:355–61.
3. Aarabi S, Longaker MT, Gurtner GC. Hypertrophic scar formation following burns and trauma: new approaches to treatment. PLoS Med. 2007;4(9):e234
4. Bayat A, Arscott G, Ollier WER, Ferguson MWJ, McGrouther DA. Description of sitespecific morphology of keloid phenotypes in an Afrocaribbean population. Br J Plast Surg. 2004;57:122–133
5. Lindsey WH, Davis PT. Facial keloids. A 15-year experience. Arch Otolaryngol Head Neck Surg. 1997;123(4):397–400.
6. Bux S, Madaree A. Involvement of upper torso stress amplification, tissue compression and distortion in the pathogenesis of keloids. Med Hypotheses. 2012;8:356-63.
7. Gauglitz GG. Management of keloids and hypertrophic scars: current and emerging opinions. Clinical, Cosmetic and Investigational Dermatology. 2013;6:103- 114.
8. Froelich K, Staudenmaier R, Kleinsasser N, Hagen R. Therapy of auricular keloids: review of diferent treatment modalities and proposal for a therapeutic algorithm. Eur Arch Otorhinolaryngol. 2007;264(12):1497-1508.
9. Ogawa R. The most current algorithms for the treatment and prevention of hypertrophic scars and keloids. Plast Reconstr Surg. 2010;125:557–68.
10. Sousa RF, Chakravarty B, Sharma A, Parwaz MA, Malik A. Efficacy of triple therapy in auricular keloids. J Cutan Aesth Surg. 2014;7(2):98-102.
11. Akoz T, Gideroglu K, Akan M. Combination of different techiniques for the treatment of earlobe keloids. Aesth Plast Surg. 2002;26:184-188.
12. Sand M, Sand D, Brors D, Altmeyer P, Mann B, Bechara FG. Cutaneous lesions of the external ear. Head Face Med. 2008;4:2.
13. Lane JE, Waller JL, Davis LS. Relationship between age of ear piercing and keloid formation. Pediatrics. 2005;115:1312–1314.
14. Macarenhas MRM, Paiva JMG, Muti LA, Vivan MM, Yarak S. Efeito da terapia combinada no tratamento do queloide auricular. Surg Cosmet Dermatol. 2015;7(3):253-256.
15. Alhady SM, Sivanantharajah K. Keloids in various races. A review of 175 cases. Plast Reconstr Surg. 1969;44(6):564-6.
16. Bock O, Schimid-Ott G, Malewski P, Mrowietz U. Quality of life of patients with keloid and hypertrophic scarring. Arch Dermatol Res. 2006;297(10):433-8
17. Furtado F, Hochman B, Ferrara SF, Dini GM, Nunes JMC, Juliano Y, et al. What factors affect the quality of life of patients with keloids? Rev Assoc Med Bras. 2009;55(6):700-4.
18. Mascarenhas MRM, Paiva JMG, Mutti LA, Vivan MM, Yarak S. Efeito da terapia combinada no tratamento do queloide auricular. Surg Cosmet Dermatol. 2015;7(3):253-256

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