Keloids in the ears: follow-up of 41 patients who had surgery and intralesional corticosteroid injections

Queloides em orelhas: seguimento de 41 pacientes submetidos à cirurgia e infiltração com corticosteróides

Original Article

Authors:

Leticia Arsie Contin' Ivander Bastazini Jr.² Cinthia Janine Meira Alves³ Priscila Wolf Nassif⁹ Dejair Caetano do Nascimento⁴

- ¹ Resident Physician at Instituto Lauro de Souza Lima – São Paulo (SP), Brazil
- ² Preceptor, Medical Residents, Instituto Lauro de Souza Lima
- ³ Dermatologist Physician São Paulo (SP), Brazil
- ⁴ Pharmacologist and Instructor, Dermatology, Instituto Lauro de Souza Lima

ABSTRACT

Introduction: Surgery combined with post-operative intralesional corticosteroid injections is considered a good treatment for keloids that occur in the ears, yet the recurrence rate for this procedure is not yet well established. There is no consensus about the minimum number of corticosteroid infiltrations needed to decrease the number of recurrences.

Objective: To correlate the rate of recurrence among patients who had surgery and postoperative intralesional corticosteroid injections to treat keloids in the ear lobe with the number of injections.

Methods: Retrospective study of 41 patients who underwent surgical excision of ear keloids combined with up to two (Group A) or 3 or more (Group B) triamcinolone acetonide intralesional injections sessions.

Results: The total recurrence rate was 37% (13% in patients from Group A and 24% in patients from Group B). Results were not more effective when the number of injections was equal to or higher than 3 (p = 0.74).

Conclusions: There was no statistical significance in the number of post-operative corticosteroid intralesional injections in the treatment of ear keloids. Further studies are necessary to corroborate these results.

Keywords: keloid; adrenal cortex hormones; ambulatory surgical procedures.

RESUMO

Introdução: A cirurgia associada a infiltrações pós-operatórias de corticosteroides é considerada boa opção terapêutica no tratamento de queloides de orelha, mas o índice de recidivas ainda não é bem estabelecido. Não há consenso sobre o número mínimo de infiltrações de corticosteroides necessárias para que haja diminuição das recorrências.

Objetivos: Avaliar índice de recidiva entre pacientes submetidos à cirurgia e infiltrações de corticosteroides para tratamento de queloides em lóbulo de orelha, relacionando com o número de infiltrações realizadas no pós-operatório.

Métodos: Estudo retrospectivo de 41 pacientes submetidos à excisão cirúrgica de queloides de orelha e a sessões de infiltração com acetonido de triancinolona. Foram analisados dois grupos: A: Submetidos a até duas sessões de infiltração. B: submetidos a três ou mais infiltrações.

Resultados: O índice de recidiva total foi de 37%, sendo 13% nos pacientes no grupo A, e 24% nos do B. Resultados não mostraram mais efetividade quando o número de infiltrações é igual ou superior a 3. P=0,74.

Conclusões: Não houve significância estatística quando comparado o número de IC no pós-operatório de queloides de orelha. São necessários estudos mais amplos que corroborem tais resultados. **Palavras-chave:** queloide; corticosteroides; procedimentos cirúrgicos ambulatórios.

Correspondence:

Dra. Letícia Arsie Contin Boulevard Lorena, 1157 / ap 35 01424-001 - São Paulo, SP – Brazil E-mail: lecotin@hotmail.com

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INTRODUCTION

Keloids result from an abnormal response to healing in predisposed individuals. Factors linked to its occurrence are: genetic predisposition, with a higher incidence in Hispanics, Asians and blacks (in rates from 5:1 to 15:1 compared to Caucasians),^{1,2} age (more common in young individuals), endocrine factors (pregnancy and menopause), and location in body areas with a greater number of melanocytes and trauma.³ In patients with lesions in the earlobe, keloids appear mainly after piercing the ears The diagnosis is clinical and a number of techniques - combined or not with surgical interventions - are proposed for treating this condition, including intralesional corticosteroids, 5-fluoruracil, alpha and gamma interferon bleomycin or verapamil injections; the use of topical substances such as clobetasol, silicone gel or sheets, immunomodulators, retinoids and onion extract; cryotherapy, radiotherapy, the use of pressure earrings, ligature of sessile keloids and pulsed dye laser, among others.1,4,5-7

OBJECTIVE

To evaluate the recurrence rate among patients who underwent surgery and corticosteroids injections (CI) for the removal of keloids in the earlobe, making correlation with the number of injections carried out in the post-operative period.

MATERIALS AND METHODS

This was a retrospective study analyzing 41 patients' records (21 men and 20 women, aged 9-66) amounting to 46 operated keloids (five patients presented bilateral lesions). The study was approved by the Instituto Lauro de Souza Lima's ethics committee. Patients who had either never undergone treatment or had already been treated with cryosurgery or bleomycin injections but presented a recurrence of lesions or therapeutic failure, were included. The intramarginal excision and simple suture of the keloids, as well as the monthly triamcinolone (20-40 mg) CI (started on the 15th day of the postoperative period up to a total of six sessions), were carried out by the same assistant physician. The initial dose was 20 mg, and was increased to 40 mg in case there was a progression of the keloid between sessions. Due to the great number of patients who abandoned the treatment during the infiltrations period, two follow-up groups were established: A - operated patients who had up to two sessions of CI, and B - patients who had three or more CI sessions. After a minimum of one year from the end of the treatment, the patients were called and asked about the recurrence of the operated lesion. Reincidence was considered to have taken place if the patient described any recurrence, regardless of the lesion's size.

RESULTS

The total corresponds to the number of operated keloids.

In Group A there was recurrence in six patients, corresponding to 13% of the total number of lesions. Recurrence was observed in 11 patients from Group B, corresponding to 24% of the total number of lesions. Comparing Groups A and B (See Table 1), there was no statistically significant difference between the number of infiltration sessions and the lesion recurrence e when the Chisquare test corrected by Fisher's exact test was used.

c 2 = 0.1048; p = 0.7462; 95% confidence interval (CI) (0.3682 - 1.684); Fisher: 95% CI (0.3682 - 1.684); p = 0.5546.

DISCUSSION

Keloids have a high rate of recurrence: according to which methodology is used, the rate varies from 0 to 100%.^{1,3,7} Surgery using intramarginal excision is a treatment option, however it is associated with reincidence rates of 45–100%.⁷ The combination of corticosteroids and infiltration in the post-operative period as an adjuvant therapy is one of the most established options, since corticosteroids inhibit collagen synthesis by increasing alpha-2 macroglobulins and alpha-1 antitrypsin.^{8,9}

Although the effectiveness of combining surgery and postoperative infiltrations has been demonstrated, there is no consensus on doses or duration of treatments; several treatment plans have been suggested. Chowdri, Mattoo and Darzi propose two to five weekly injections of triamcinolone, followed by monthly injections for four to six more months.⁵ In a review on keloids and hypertrophic scars, English and others suggest administering 20 mg/ml triamcinolone once every two or three weeks, repeated if necessary, combined with a brief cryotherapy jet prior to the procedure.⁸

A less aggressive approach was proposed by Rosen, Patel, Freeman and Weiss, consisting of one intra-operative and two post-operative infiltrations of 40 mg/ml triamcinolone acetonide. In cases with no recurrence, the follow-up was observational only. That study involved 92 keloids in the ears of 64 patients, with a reincidence rate that ranged from 14% (first time treatment) to 40% (recurrent keloids).¹¹

In the post-operative period of 11 patients, Aköz, Gideroglu and Akan used pressure earrings combined with silicone gel, in addition to one session of CI with 20-40 mg/ml triamcinolone in the borders of the incision, after the 14th day after the procedure. The follow-up lasted 28 months on average, presenting a 89% cure rate.¹

Triamcinolone is also Wolfram, Tzankov, Pulzl and Piza-Katzer's drug of choice. Their treatment plan consists of smaller doses (5 to 10 mg/ml) in intervals of three to six weeks, contin-

Table 1. Comparison of treatments A (surgery and up to two corticosteroid infiltrations) and B (surgery and three or more infiltrations)			
	Α	В	Total
Recurrence Without recurrence Total	6 (13%) 13 (28%) 19 (41%)	11 (24%) 16 (35%) 27 (59%)	17 (37%) 29 (63%) 46 (100%)

The total corresponds to the number of operated keloids. $\chi^2 = 0.1048$; p = 0.7462; 95% confidence interval (CI) (0.3682 - 1.684); Fisher: CI 95% (0.3682 - 1.684); p = 0.5546..

uing until the scar stabilizes, until a new surgical intervention is necessary or until side effects appear.³

In the present study, a total reincidence rate of 37% was observed after surgery and infiltration. Aligned to the average results found in the literature describing the combination of those procedures, suggesting it is reasonably effective when compared to the date found in the literature for the isolated surgery. Nevertheless, when comparing these results to the recurrence rates in groups with fewer or greater numbers of infiltration sessions, no statistical significance was found. In fact, a greater recurrence rate was verified for the group with a greater number of infiltrations (13% in the group treated with up to two infiltrations and 24% in the group that received three or more infiltrations). This can be linked to the fact that recurrent keloids that had already been treated - thus implying a situation where recurrence rates tend to be higher - were indiscriminately included in the study.¹¹ There is also the hypothesis of a higher patient adherence to longer treatments in cases where the post-operative outcome was less favorable, for example with the fast growth of a new lesion or with previous recurrences.

Therefore, it is not possible to establish a minimum number of post-operative infiltrations. Factors other than the number of sessions and the corticoid dosage can have a decisive influence in the recurrence of a keloid, explaining, for instance, why some patients with bilateral lesions treated in the same way present recurrence in only one side.

CONCLUSION

Corticosteroids present side effects such as the risk of secondary infection, atrophies, telangiectasias, hypopigmentation and Cushing's syndrome.⁸ The attempt to establish effective infiltration treatment plans of the shortest possible duration are, therefore, justified.

Although the adjuvant therapy was found to be efficient, there was no statistical significance between the two groups, meaning it is not possible to state that long infiltration schemes are necessary or possibly more efficient in the prevention of recurrences. Further studies to corroborate such results and identify new risk factors for the recurrence of keloids are, therefore, necessary.

REFERENCES

- Aköz T, Gideroglu K, Akan M. Combination of Different Techniques for the Treatment of Earlobe Keloids. Aesth Plast Surg. 2002; 26(3): 184-88.
- 2. Alhady SMA, Sivanantharajah K. Keloids in various races: A review of 175 cases. Plast. Reconstr. Surg. 1969; 44(6): 564-66.
- Wolfram D, Tzankov A, Pulzl P, Piza-Katzer H. Hypertrophic scars and keloids- A review of their Pathophysiology, Risk factors, and Therapeutic Management. Dermatol Surg. 2009; 35(2): 171-81.
- 4. Kelly AP. Medical and Surgical therapies for Keloids. Dermatol Ther. 2004; 17(2): 212-8.
- Chowdri NA, Mattoo MMA, Darzi MA. Keloids and hypertrophic scars: Results with intra-operative and serial postoperative corticosteroid injection therapy. Aust NZJ Surg. 1999; 69(9): 655-9.
- 6. Bezerra S. Manejo dos quelóides. In: Gadelha AR, Costa IMC. Cirurgia Dermatológica em Consultório. São Paulo: Editora Atheneu. 2003.

- 7. Stashower ME. Successful Treatment of Earlobe Keloids with Imiquimod after Tangential Shave Excision. Dermatol Surg. 2006; 32(3): 380-6.
- 8. English RS, Shenefelt PD. Keloids and Hypertrophic scars. Dermatol Surg. 1999; 25(8):8.
- McCoy BJ, Diegelmann RF, Cohen IK. In vitro inhibition of cell growth, collagen synthesis and polyhydroxylase activity by triamcinoline ace tonide. Proc Soc Exp Biol Med. 1980; 163(2):216-22.
- 10. Tang YW. Intra and post-operative steroid injections for keloids and hypertrophic scars. Br J Plast Surg. 1992; 45(5): 371-3.
- Rosen DJ, Patel MK, Freeman K, Weiss PR. A primary protocol for the management of ear keloids: Results of excision combined with intraoperative and postoperative steroid injections. Plast Reconstr Surg. 2007;20(5): 1395-400.