

Study Of Beard Keloids In The Plastic Surgery Department Of Aristide Le Dantec Hospital In Dakar

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Abstract

Introduction: Beard keloids are benign fibrous skin tumours that develop in the facial areas where hair grows in men after puberty. They are characterised by the presence of fistulised abscesses and rapid growth that can lead to facial dysmorphism. Frequent recurrence makes treatment difficult.

Patients And Methods: We conducted a retrospective study from December 2000 to December 2020 in our plastic and reconstructive surgery department. The records of 30 patients with keloids of the beard were collected.

Results: The mean age of the patients was 34.93 ± 8.66 years. The mean age of onset of keloids of the beard was 27 ± 8.09 years. The preferential location of keloids was the chin (90%), followed by the cheeks (67%). The average duration of keloids was 08.37 ± 07.52 years. Suppurative fistulas were present in 53.8% of cases. Our patients underwent suture removal in 69% of the cases, removal and skin grafting in 22% of the cases and removal and directed healing in 9% of the cases. The surgery was combined with postoperative dermocorticoid infiltrations. The recurrence rate was 22% with a mean follow-up of 19.9 months. Complications were noted with infections (24%) and suture loosening (26%). The patient satisfaction rate after treatment was 91%.

Conclusion: The management of keloids of the beard requires surgical excision. In case of non-suturable loss of substance, secondary skin grafting is desirable. As surgery alone is to be avoided, the association with postoperative corticoid infiltrations at the level of the scars remains in our context, an option of choice to limit recurrence.

INTRODUCTION

Keloids of the beard are benign fibrous tumours of the skin developed in the area where hair grows in adolescents and men from puberty onwards, more precisely the cheeks, lower lip, chin and neck. These keloids of the beard are characterised by the frequent and persistent appearance of fistulas leaking pus, but also by a rapid growth leading to an impressive facial dysmorphism. Treatment of beard keloids is very difficult; in situ corticosteroid infiltrations maintain or aggravate the fistulas by transforming them into abscesses due to the underlying folliculitis. Surgery for cervical-cephalic keloids is tricky and healing unpredictable. The lack of prospect of improvement and the therapeutic impasse in which the patients sometimes find themselves, have a rather deleterious psychological impact, pushing them little by little to marginalize themselves. The aim of our study is to report the experience of the Plastic and Reconstructive

Surgery Department of the Aristide Le Dantec Hospital in the management of keloids of the beard.

PATIENTS AND METHODS

We conducted a retrospective, descriptive and analytical study. It took place over a period of 20 years, from December 2000 to December 2020. The records of 30 patients with keloids of the beard followed in the plastic, reconstructive and aesthetic surgery department of the Aristide Le Dantec Hospital in Dakar were collated. Data were collected using a data collection form and statistical analyses were performed using Epi Info 7 and Microsoft Excel 2013 software.

RESULTS

Age of patients

We found a mean age of the patients in the study of $34.93 \pm$

8.66 years. The age group 30-39 years was the most affected (53.33%). Figure 1 shows the age distribution.

Medical and surgical history

Of the patients, 14 (47%) had a history of medical and surgical treatment as follows: 7 patients (23%) had received local corticosteroid infiltration, 3 patients (10%) had undergone excision and 2 patients (7%) had undergone excision combined with infiltration.

Age of onset of keloids of the beard

The average age of onset of keloids of the beard was 27 ± 8.09 years. Figure 2 reports the age of onset according to age groups.

Location of beard keloids

The keloids were located on the chin in 27 cases (90%), on the right cheek in 20 cases (67%), on the left cheek in 19 cases (63%) and on the neck in 4 cases (13%). The average duration of keloids was 08.37 ± 07.52 years.

Appearance of beard keloids

Keloids with productive fistulae were found in 30% of cases, folliculitis of the beard was found in 27% of cases, abscessed keloids in 13% of cases, hair inclusion in 7% of cases and ulcerations in 3% of patients.

Extent of beard keloids

The mean major axis length of the keloids was $12.83\text{cm} \pm 10.29$ with extremes ranging from 02cm to 40cm.

The mean length of the minor keloid axis was $6.33\text{cm} \pm 6.81$ with extremes ranging from 01cm to 30cm.

Duration of evolution of keloids of the beard

The mean duration of keloids was 08.37 ± 7.52 years with extremes ranging from 1 to 30 years.

Treatment

In our series, 23 patients underwent surgery (77%). Among them, 3 modalities were possible : excision followed by simple suture, excision followed by directed healing and finally excision followed by a secondary graft. Table I shows the distribution of patients according to the therapeutic modalities.

The skin graft was performed in a second step after

obtaining a suitable subsoil and used thin skin.

In all cases, the surgery was combined with post-operative corticosteroid infiltration of the graft and the graft collection area.

Clinical course

Complications were noted in 52% of cases, such as infections (24%) and suture loosening (26%).

The recurrence rate of keloids after treatment was 22% with an average follow-up of 19.9 months. Table II shows the distribution of recurrences according to the treatment modality.

Patient satisfaction

The patient satisfaction rate after treatment was 91%.

Table 1

Treatment modalities

Modalities	Number	Percentage
Exeresis + Suture	16	69 %
Exeresis + Directed Wound Healing	2	9 %
Exeresis + Secondary grafting	5	22 %
Total	23	100%

Table 2

Recurrence according to treatment modalities

Modalities/recurrence	yes	No	Total
Exeresis + Suture	5	11	16
Exeresis + Directed Wound Healing	0	2	2
Exeresis + Secondary grafting	0	5	5
Total	5	16	23

Table 3
Average age of patients by studies

Studies	N	Average age	Extremes
Assi K et al (Abidjan) [3]	100	28	12-67
Carmassi M et al. (Marseille) [4]	52	30	12-68
Kibadi K et al (Kinshasa) [5]	172	24,01	13-34
Mace JE et al (Bordeaux) [6]	321	21,6	02-76
Martinet L et al (Nantes) [7]	100	18	01-83
Philibert F et al (Amiens) [8]	37	31	6-74
Our study	30	34,93	20-58

Figure 1
Distribution of subjects by age group

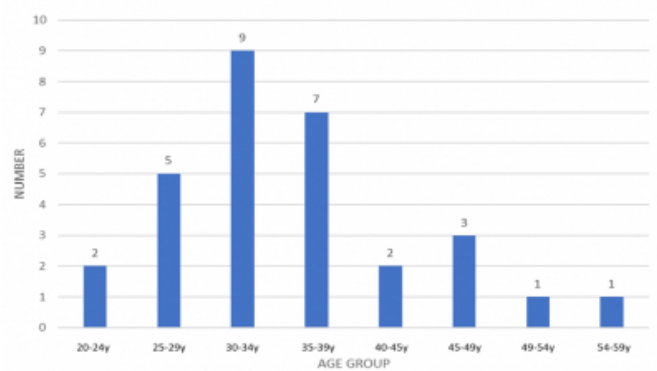


Figure 2
Age of onset of keloids of the ebar

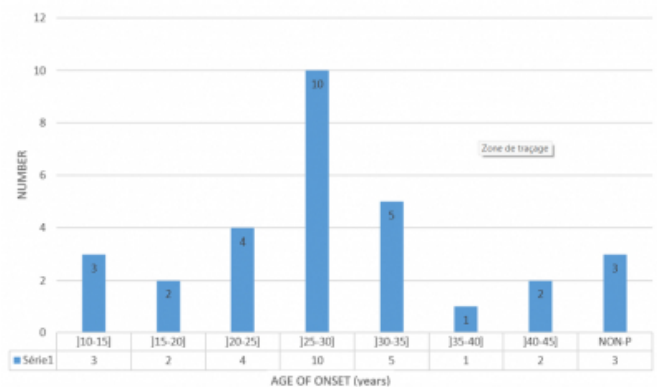


Figure 3
Before – Front view



Figure 4
Before – Right profile view



Figure 5

Before – Left profile view



Figure 7

Before skin graft – Left profile view



Figure 6

Before skin graft – Right profile view



Figure 8

9 months after – Front view



Figure 9

9 months after – Right profile view



Figure 10

9 months after – Left profile view



DISCUSSION

Age of the patients

The frequency of keloids in young subjects is linked to their high capacity to synthesise collagen according to O'Sullivan et al [1]. Some authors such as Rockwell [2] explain this fact by pointing out that skin tensions are at their maximum in young subjects whereas older subjects have skin laxity. Rockwell also reports that the incidence of keloids is higher during periods of pituitary hyperactivity such as puberty and pregnancy. We have not found any series that specifically deal with keloids of the beard, however we were keen to compare our series with others dealing with keloids in general. Table III shows the mean age in the different series.

Medical and surgical history

In our series, 47% of the patients had a history of treatment of beard keloids, surgical excision or dermocorticoid infiltrations alone or both. Many practitioners and/or patients believe that keloids can be "cured" with excision alone or a few infiltrations. However, keloids are tumours with a high potential for recurrence, requiring combination therapies and long-term follow-up to avoid failure or worse, worsening of the lesions.

Age of onset of keloids of the beard

The average age of onset of keloids of the beard was 27 ± 8.09 years. There is about a dozen years between the appearance of beard hair and the appearance of keloids; the latter generally develop on a bed of folliculitis of the beard, which is very common in melanodermic subjects and is caused by repetitive shaving. This cascade of microtrauma is the basis for the formation of keloids of the beard with a long evolution.

Location of beard keloids

The keloids were mostly located on the chin and exceptionally on the neck. There was no predominance between the left and right cheeks. This location on the chin can be explained by the fact that it is subject to numerous traumas and is also an area of tension. It is also a source of aesthetic prejudice because of its visible nature. The cervical location of the keloid is tricky as the neck plays an important role in the mobility of the head. Any surgery in this area has the potential to promote retractive scarring.

The appearance of keloids in the beard

Keloids with a suppurative lesion were found in 53% of patients.

Besides the facial dysmorphia caused by the large keloids, the other major source of discomfort was the chronic suppuration with a foul odour emanating from the lesions. As a result, these keloids caused social marginalisation of some patients as well as real psychological suffering.

The extent of the keloids in the beard

The mean length of the major axis of the keloids was 12.83cm with extremes ranging from 02cm to 40cm. The extent of keloid lesions was quite large in the majority of studies. In our personal experience, keloids of the beard have a very high recurrence potential and ability to grow.

Continuous inflammatory remodelling or infection caused by the hairs probably contributes to the stimulation of keloid growth.

The duration of keloids in the beard

The long evolutionary duration of keloids of 08.37 years is multifactorial with :

- Difficulties in accessing care (financial problems, distance from specialists) ;
- Recourse to traditional practitioners;
- Recourse to non-specialist practitioners;
- The patient's lack of resilience.

Treatment

For the surgical management of keloids we have several therapeutic strategies. They are rarely used in isolation but in combination. In our study, surgery was combined with the injection of corticosteroids at the level of the various scars. Assi [3], Allah [9] in Côte d'Ivoire, Traoré [10] and Béogo [11-12] used the same therapeutic modality.

As far as surgery is concerned, three techniques were used :

- Excision followed by suture with absorbable thread ;
- Excision with wound healing directed by dressings and monitoring;
- Excision with secondary skin graft.

The choice of treatment depended on the size of the keloid and the location.

However, in developed countries, although intralesional injection of triamcinolone remains an important part of the therapeutic arsenal [13], other methods are used such as contact brachytherapy associated with surgical excision or radiotherapy [14-15].

These latter therapeutic methods are most often unavailable or very difficult to access, hence their exceptional use in our countries.

When the loss of substance was not suturable, the choice of a subsequent graft was more prudent in order to have an adequate subsoil for better grafting. This graft also involves infiltrations at the skin graft removal site.

Clinical evolution

Complications were noted in 52% of cases, distributed as follows: 24% infections, 26% cases of suture loosening and 4% cases of infection + suture loosening. No graft lysis was noted during our follow-up.

The overall recurrence rate of keloids after surgical treatment associated with intralesional infiltrations of delayed triamcinolone was therefore 22% for a mean follow-up of all patients of 19.9 months with extremes ranging from 01 month to 129 months. These data show that combined therapy is a good method for the management of keloids in general; the result is satisfactory compared to the results found in the literature: 17% recurrence rate with excision with contact brachytherapy [14], around 30% [16] recurrence rate for surgical excision associated with intralesional infiltrations. The analysis of recurrences according to the therapeutic modalities in our series showed that sutures caused more recurrences than excision followed by a secondary graft and excision with directed healing. The recurrences in our study were due to insufficient infiltration because of the geographical distance from the patients' care centres combined with the lack of specialists in these regions or financial constraints and sometimes because of the pain during injections.

Overall, our results are similar to those of developed countries which have more resources and better follow-up.

Patient satisfaction

The satisfaction rate of patients after their treatment was 91%. Whether or not they were satisfied depended on the short, medium and long term outcome.

The eradication of the sources of suppuration and the return to a more engaging face after surgery made patients happy to no longer have to carry this burden. On the other hand, the follow-up remained a constraint with painful infiltrations, close sessions every 3 weeks and a financial cost difficult to bear for some.

CONCLUSION

Beard keloids are characterized by the presence of chronic suppurations. Its management in our context requires surgical excision. In case of non-suturable loss of substance, secondary skin grafting is desirable. As surgery alone is to be avoided, post-operative corticosteroid infiltrations at the level of the scars remain in our context, an option of choice to limit recurrence.

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