Available online at www.sciencedirect.com

ScienceDirect

British Journal of Oral and Maxillofacial Surgery 57 (2019) 685–687

BRITISH Journal of Oral and Maxillofacial Surgery

www.bjoms.com

Short communication

Facial necrotising fasciitis following rhytidectomy

P. Haen [a,*], S. Laversanne [a], N. Graillon [b], J.M. Foletti [c]

[a] *Department of Oral and Maxillofacial Surgery, Hôpital d'Instruction des Armées Laveran, Boulevard Laveran, 13013 Marseille, France*
[b] *Department of Oral and Maxillofacial Surgery, Assistance Publique des Hôpitaux de Marseille, Hôpital de la Conception, Boulevard Baille, 13005 Marseille, France*
[c] *Department of Oral and Maxillofacial Surgery, Assistance Publique des Hôpitaux de Marseille, Hôpital Nord, Chemin des Bourrely, 13326 Marseille, France*

Accepted 28 May 2019
Available online 13 June 2019

Abstract

Rhytidectomy is the most common surgical procedure used to rejuvenate the appearance of the aging face and neck. Necrotising fasciitis is a rapidly progressing, life-threatening, bacterial infection of the skin, the subcutaneous tissue, and the fascia. We report a case of necrotising fasciitis of the face caused by a group A streptococcal infection after rhytidectomy on a healthy female patient. An abscess on her hand that had been caused by an infection related to a venous catheter had provided a potential entry for the pathogen, and treatment combined both surgical debridement and antibiotics. The operation had resulted in large tissue losses around the ears, which we treated by healing by second intention.

Keywords: necrotizing fasciitis; rhytidectomy; aesthetic surgery; complication

Case report

A 57-year-old healthy woman, who did not smoke, was admitted to our department for facial rejuvenation by rhytidectomy. We operated under general anaesthesia, and no prophylactic antibiotics were prescribed. She was discharged the day after, and complained of pain on her right hand next to a venous catheter, which was found to have been dislodged overnight.

Two days later, she was readmitted to hospital with a fever of 38.5 °C, increasing pain in her hand, and considerable pain around the rhytidectomy scars. Clinical examination showed inflammation and swelling of the face, with blisters and necrotic lesions (Fig. 1). Her right hand was also painful and showed global inflammation and blisters near the puncture site of the catheter. An abscess was suspected, and later confirmed by ultrasound examination. Facial necrotising fasciitis was diagnosed, which required an emergency operation and antibiotics intravenously. We incised and drained the abscess on the hand, drained, washed and debrided the rhytidectomy flaps, and all necrotic tissues were fully removed. The same type of bacteria (group A streptococcus) was found in all microbiological analyses (samples collected from the patient's face and hand, and blood cultures).

Three days after operation, both fever and microbiological results had returned to normal ranges. One week later, her dressings were clean, and she was discharged. Surgical outcomes comprised large temporal and preauricular defects, which were treated by healing by second intention (Fig. 2), and the facial wound was fully healed after 11 weeks (Fig. 3). A thorough medical check-up was completed to search for any underlying conditions that may have led to the infec-

* Corresponding author at: Service de Chirurgie Maxillo-Faciale, Hôpital d'Instruction des Armées Laveran, Boulevard Laveran, 13013 Marseille, France. Tel.: +33491617200; Fax: +33491617234.
E-mail address: pierre.haen@intradef.gouv.fr (P. Haen).

https://doi.org/10.1016/j.bjoms.2019.05.016

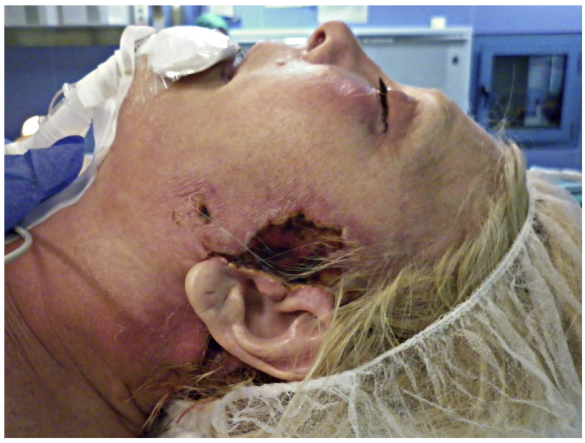

Fig. 1. Left-sided view of the patient's face before the initial operation.

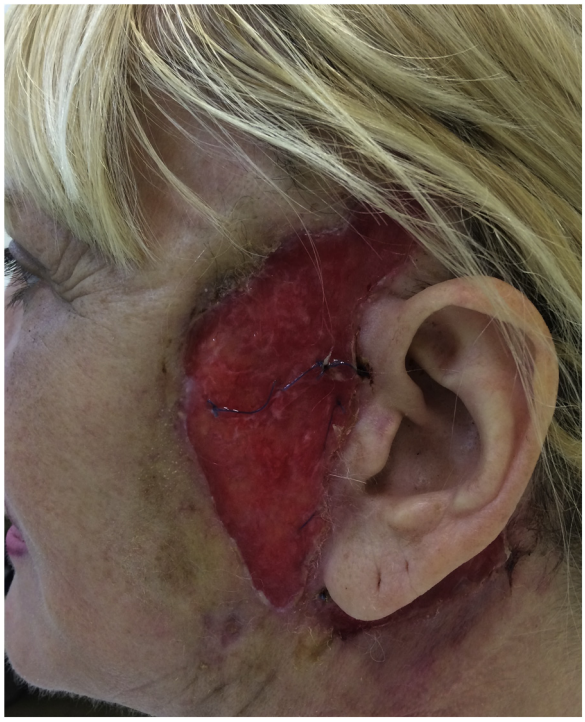

Fig. 2. Left-sided view of the patient's face one week after the initial operation.

tion (such as diabetes mellitus or AIDS), but no meaningful results were obtained.

Discussion

Necrotising fasciitis is a rare, life-threatening, infection that is characterised by rapidly progressive necrosis of the soft tissues. It mainly affects the extremities, the perineum, and the trunk, and extension to the face is rare (accounting for less than 3% of cases).[1] According to published studies,[2] the mortality is about 20%. It may result from a previous history of trauma (associated with predisposing conditions), and

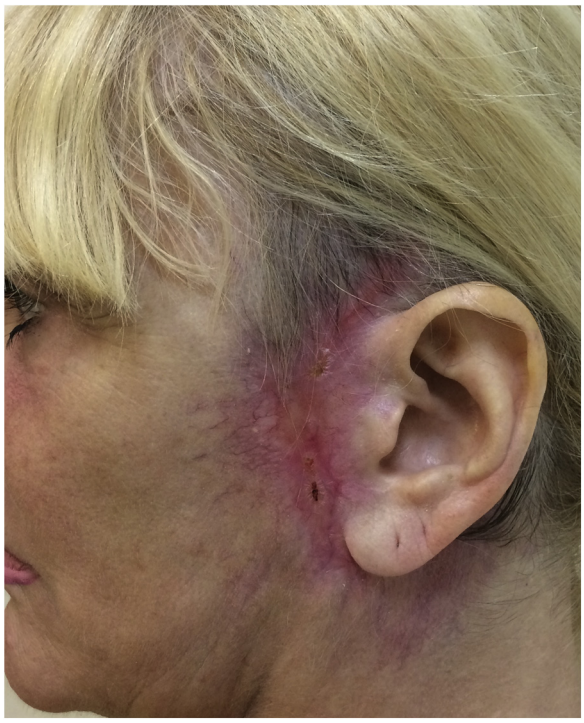

Fig. 3. Left-sided view of the patient's face 11 weeks after the initial operation (complete healing).

is supposed to affect predominantly immunocompromised patients, particularly those with diabetes mellitus, which is the most commonly reported comorbidity. According to case series and studies on localisation, therefore, there should be no comorbidity in 30% to 50% of these patients.[1–3] Anybody who has had aesthetic surgery, even those with no apparent health problems, may contract necrotising fasciitis.[4] Regarding localisation in the face, most of the reported cases have occurred after blepharoplasty, some after lifts or liposuction in the neck but, to our knowledge, none has been reported after rhytidectomy.

Subcutaneous introduction of the pathogen can occur through any disruption of the overlying tissue, and haematogenous spread from a site distant from the infection occurs only rarely, but this is the presumed aetiology in our patient.[5]

Optimal treatment consists of extensive debridement and treatment with antibiotics.[6]

Antibiotic prophylaxis to prevent necrotising fasciitis after operation could be discussed, although recommendations for rhytidectomy are not unanimously agreed upon, and vary according to surgeons' medical training and the country in which they practice.[7]

The loss of soft tissues after rhytidectomy is a dreaded complication that occurs in under 1% of cases. It generally results in small-sized defects, which are usually found in patients who smoke. Larger soft-tissue losses are rarer, and have mostly been reported after haematomas.[8] We know of few publications concerning options for reconstruction after

such large tissue losses, but they all endorse the same plan, which is healing by second intention.[9,10]

In conclusion, facial necrotising fasciitis is a rare but severe complication of rhytidectomy.

It should not be ignored because it is life-threatening and has a high risk of aesthetic complications. Even though some of the predisposing factors have been identified, it can still occur in an apparently healthy patient. Patients should therefore be informed of the infectious risks inherent in aesthetic surgery.

Conflict of interest

We have no conflicts of interest.

Ethics statement/confirmation of patient's permission

Ethics approval was not applicable. We have the patient's written consent to use photographs for publication.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.bjoms.2019.05.016.

References

1. Bernal NP, Latenser BA, Born JM, et al. Trends in 393 necrotizing acute soft tissue infection patients 2000–2008. *Burns* 2012;**38**:252–60.
2. Golger A, Ching S, Goldsmith CH, et al. Mortality in patients with necrotizing fasciitis. *Plast Reconstr Surg* 2007;**119**:1803–7.
3. Deneubourg DL, Catherine Z, Lejuste P, et al. Periorbital necrotizing fasciitis induced by Streptococcus pyogenes: a case report and clarification. *J Oral Maxillofac Surg* 2018;**76**:154.e1–5.
4. Marchesi A, Marcelli S, Parodi PC, et al. Necrotizing fasciitis in aesthetic surgery: a review of the literature. *Aesthet Plast Surg* 2017;**41**:352–8.
5. Wong CH, Kurup A, Wang YS, et al. Four cases of necrotizing fasciitis caused by Klebsiella species. *Eur J Clin Microbiol Infect Dis* 2004;**23**:403–7.
6. Charadva H, Chiu GA, Yanev N. Infraorbital necrotising fasciitis: importance of rehabilitation in vulnerable patients. *Br J Oral Maxillofac Surg* 2016;**54**:970–1.
7. Stacey DH, Warner JP, Duggal A, et al. International interdisciplinary rhytidectomy survey. *Ann Plast Surg* 2010;**64**:370–5.
8. Lee LN, Quatela O, Bhattacharyya N. Postoperative revisits and readmissions after facelift surgery. *Laryngoscope* 2018;**128**:2714–7.
9. Araco A, Gravante G, Araco F, et al. Conservative management of flap necrosis after expanding hematomas for face lifting surgery. *Dermatol Surg* 2006;**32**:878–80.
10. Niamtu JIII. Pyoderma gangrenosum after facelift and otoplasty surgery: case presentations and literature review. *J Oral Maxillofac Surg* 2019;**77**:834–42.