

Can't you see? It's a Cupid's bow basal cell carcinoma!

Difícil de ver: é um basalioma do arco de cupido

Georgi Tchernev^{1,2}, Simona Kordeva¹, Iliia Batashki², Atanas Batashki³, and Iliia Lozev³

¹Department of Venereology and Dermatologic Surgery, Onkoderma-Clinic for Dermatology; ²Department of Dermatology and Venereology; ³Department of Common and Vascular Surgery, Medical Institute of Ministry of Interior. Sofia, Bulgaria

Abstract

Epithelial tumors, and in particular basal cell carcinoma (BCC), extremely rarely affect the area known as Cupid's bow, and their treatment remains a serious challenge. We present a 53-year-old patient with a history of painful sunburns in the past and BCC of the neck, successfully treated surgically. The reason for the hospitalization was the appearance of a new nodular achromic lesion in the area of "Cupid's bow" (upper lip), which preoperatively was verified histopathologically as BCC. Elliptical excision under local anesthesia was performed, and the resulting defect was closed using an undermining surgical approach, followed by single skin sutures. The patient's 4-month follow-up was uneventful with no evidence of recurrence. Treatment options for BCCs in the area of Cupid's bow and the advantages of elliptical excision in the area are discussed.

Keywords: BCC. Cupid's bow. Dermatologic surgery. Undermining surgical approach. Erogenous zone. Elliptical excision.

Resumo

Os tumores epiteliais, e em particular o BCC, afectam muito raramente a área conhecida como arco de Cupido, e o seu tratamento permanece um sério desafio. Apresentamos um paciente de 53 anos com um histórico de queimaduras solares dolorosas no passado e carcinomas basocelulares (BCC) do pescoço, tratado cirurgicamente com sucesso. O motivo da hospitalização foi o aparecimento de um novo nodular lesão acrómica na área de "Cupid's bow" (lábio superior), a qual foi verificada histopatologicamente, antes da operação, como BCC. Elíptica excisão sob anestesia local foi realizada, e o defeito resultante foi fechado usando uma abordagem cirúrgica minadora, seguido de suturas de pele simples. O seguimento de 4 meses do paciente foi sem problemas, sem evidências de recidiva. Tratamento são discutidas as opções de BCC na área do arco do Cupido e as vantagens da excisão elíptica na área. Palavras-chave: BCC. Arco de Cupido. Cirurgia dermatológica. Abordagem cirúrgica de submineração. Zona erogénica. Excisão elíptica.

Introduction

In practice, the lips are an important organ and have a key role both in food intake, the formation/articulation of speech, and the sounds, we produce¹⁻³. On the other hand, the lips are also a tactile-sensory organ, an erogenous zone of particular importance in relation to the

concept of intimacy^{2,3}. Precisely because of this, the preservation of their integrity (of the lips) is largely related to the preservation of the concepts such as individuality, uniqueness, and identity.

The damage to their shape or "external frame" could have a serious impact on the psycho-emotional state of the patients even when the esthetic side of this

***Corresponding author:**

Simona Kordeva

E-mail: simonakordeva97@gmail.com

2797-500X / © 2022 Portuguese Society of Dermatology and Venereology. Published by Permanyer. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Received: 04-08-2022

Accepted: 26-09-2022

DOI: 10.24875/PJDV.22000010

Available online: 09-12-2022

Port J Dermatol and Venereol. 2022;80(4):313-316

www.portuguesejournalofdermatology.com



Figure 1. **A** and **B**: achromic tumorous formation in the area of the upper lip or the so-called Cupid's bow. **C**: preoperative marking of the resection lines before anesthetic administration.

problem is completely resolved in their favor and facial disproportions are absent to minimal⁴. Any change in this area remains "painful" for patients regardless of age and the achieved postoperative results⁴.

From a practical point of view, a mandatory step in determining the surgical or therapeutic plan should be performing a skin/mucosal biopsy, which is needed for the various future therapeutic options, possible radiation therapy, local application of imiquimod, determination of recommended or "reduced" resection margins fields (performed for a better cosmetic result), prepared for adaptation to the compromised motility of the lips in the postoperative period, the necessity of disease staging, the patient follow-up during certain periods, etc.⁵. Informed consent is mandatory and should be discussed carefully and in detail.

Case report

A 53-year-old male reported to the dermatology department with primary complaints of an elevated achromic tumorous formation on the upper lip in the area of the Cupid's bow over the past 6 months (Figures 1A and 1B), which started bleeding and growing in the previous 2 months. A biopsy confirmed basal cell carcinoma (BCC). The patient denied having allergies or any form of skin cancer in any family member. The previous history of two BCC's in the neck area was reported. Concomitant diseases: hypercholesterolemia, hypertriglyceridemia.

The patient with a phototype II was otherwise healthy, orientated, and in good condition. The laboratory results

showed normal values for the total serum protein- 94.0 gm/L (norm 64-83), triglycerides- 2.76 mmol/L (norm 0.2-1.7), cholesterol- 8.04 mmol/L, LDL- 5.6 mmol/L (norm 1.5-3.0). An ECG showed sinus rhythm with a left anterior hemiblock, thorax X-ray was normal, ultrasound of the neck showed no pathologic lymph nodes, and Doppler revealed 50% stenosis of the right internal carotid artery.

The patient underwent surgical excision with 0.35 mm margins in all directions (Figures 1C, 2A and 2B).

The lesion has been removed by elliptical excision without resectioning the muscles in the depth. In order to close the defect adequately, the tissue has been mobilized and closed by single interrupted sutures.

Histopathology showed an adenoid cystic variant of BCC measuring 2/4 mm with clean resection lines.

A severe swelling of the upper lip was observed postoperatively (Figure 2B). The patient received methylprednisolone 20 mg i.v., once daily for 5 days, and desloratadine 5 mg once daily for 6 days, combined with daily dressings with povidone-iodine 10% ointment, with visible improvement of the upper lip edema.

Discussion

BCC is one of the most common types of skin cancer in photo exposed areas⁶. It should be noted that the labial mucosa is not the characteristically nor the typical area within which BCC manifests clinically^{7,8}. About 90% of skin tumors affecting the lips are squamous/keratinocytic carcinomas⁹. Although extremely rare, when present, BCCs primarily affect the upper lip⁴.



Figure 2. **A:** intraoperative finding after removing the tumor formation and stopping the bleeding with electrocautery. **B:** intraoperative finding immediately after closure of the defect with single skin sutures. **C:** postoperative finding on day 10. **D:** clinical status after 4 weeks.

According to other authors' collectives, the incidence of BCCs in women in this area prevails significantly⁹.

The main pathogenetic mechanisms for the induction of this type of neoplasms are associated with prolonged exposure to sunlight, geographic location, race, immune status, as well as some genetic features^{10,11}.

The pathogenetic hypotheses regarding the development of basal cell carcinomas in the area of the upper lip are interesting and largely divergent, as (1) they include the transformation of the pluripotent epithelial cell of the oral mucosa and epidermis to a tumor cell, while (2) other authors believe that the transformation to a malignant branch starts from the ectopic sebaceous glands⁹.

Regardless of these mechanisms, early treatment of BCCs of the upper lip is and should remain a priority due to the propensity of tumor complexes for rapid deep invasion⁷.

The uniqueness of the finding shared by us- BCC in the area of the upper lip, is confirmed by a number of extensive literature observations¹²⁻¹⁴.

Back in 1949, a study of 620 cases of BCCs of different/variable localization, found only two cases of BCCs of the lower lip¹².

A similar study of 625 cases of BCCs from 1975, again found a limited number of BCCs of the lips: three cases of BCC of the vermilion mucosa¹³.

In 1998, another scientific work focused attention on three new cases of BCC of the vermilion zone, but again on the lower lip, treated surgically by Mohs surgery¹⁴.

Reconstruction after removal of epithelial tumors in the area of "Cupid's bow" remains a serious clinical/dermatosurgical challenge, as it requires the precise application of a number/of different plastics such as Mohs micrographic surgery, followed by a flap or a skin graft or mucosal advancement flap¹⁵, simultaneously used of two vermilion flaps and a rotational skin flap¹⁶.

The data in the medical literature, on the application of elliptical excision in the Cupid's bow area, followed by undermining approach and defect closure with single interrupted stitches or the surgical solution proposed and carried out by our team (Figures 1 and 2), is limited. It requires massive infiltration of the tumor area with lidocaine 2% and adrenaline diluted with saline, thus inducing flattening of the physiological folds in and around the tumor area, the so-called Cupid's bow area. This smoothens the compliance with the resection lines and adaptation of the wound edges subsequently (Figure 2B).

If edema persists, the systemic administration of corticosteroids and antihistamines are also possible, similar to the patient's description. This guarantees a gradual "shrinkage of edema" in the postoperative

period, as well as the parallel occupation of the selected position of the physiological folds in the area of Cupid's bow (Figures 2C and 2D).

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

References

1. Sawada Y, Koga Y, Nihei Y, Urushidate S. Reconstruction of cupid's bow with bilateral vermilion flaps. *Br J Plast Surg.* 1996;49:466-7. DOI: 10.1016/s0007-1226(96)90032-6
2. Moore KL, Dalley AF. *Clinically Oriented Anatomy.* 4th Edition. Lippincott Williams & Wilkins; 1999.
3. Carey JC, Cohen MM Jr, Curry CJ, Devriendt K, Holmes LB, Verloes A. Elements of morphology: standard terminology for the lips, mouth, and oral region. *Am J Med Genet A.* 2009;149A:77-92. DOI: 10.1002/ajmg.a.32602
4. Moretti A, Vitullo F, Augurio A, Pacella A, Croce A. Surgical management of lip cancer. *Acta Otorhinolaryngol Ital.* 2011;31:5-10. PMID: 21808457; PMCID: PMC3146335.
5. Spina P, Drummond A, Campy F, Novellino AB, Mesquita Filho J. Surgical options for treatment of lip and perioral tumors: report of 5 cases. *An Bras Dermatol.* 2014;89:493-6. DOI: 10.1590/abd1806-4841.20142805
6. Tourli I, Langner D, Haroske G, Tchernev G, Lotti T, Wollina U. Basal cell carcinoma of the head-and-neck region: a single center analysis of 1,750 tumors. *Georgian Med News.* 2016;33-9. PMID: 26870972.
7. Yaghoobi R, Ranjbari N, Pazyar N, Foroozan M, Feily A. Basal cell carcinoma of vermilion mucosa of upper lip: a rare case report. *Acta Med Indones.* 2017 Jul;49(3):255-258. PMID: 29093237.
8. Milka RB, Kerkeni N, Jebali A, Zghal M, Debbiche A, Ayed MB, et al. Carcinome basocellulaire de siège inhabituel [Basal cell carcinoma of unusual site]. *Ann Pathol.* 2011;31:32-5. DOI: 10.1016/j.annpat.2010.08.024. Epub 2011 Jan 26. PMID: 21349386.
9. Luna-Ortiz K, Güemes-Meza A, Villavicencio-Valencia V, Mosqueda-Taylor A. Upper lip malignant neoplasms. A study of 59 cases. *Med Oral Patol Oral Cir Bucal.* 2012;17:e371-6. DOI: 10.4317/medoral.17501. PMID: 22143714; PMCID: PMC3475642.
10. Tchernev G, Pidakev I, Lozev I, Lotti T, Wollina U. Multiple nonsyndromic acquired basal cell carcinomas : Uncommon clinical presentation in a Bulgarian patient. *Wien Med Wochenschr.* 2017;167:134-8. DOI: 10.1007/s10354-017-0545-7
11. Wollina U, Tchernev G. Advanced basal cell carcinoma. *Wien Med Wochenschr.* 2013;163:347-53. DOI: 10.1007/s10354-013-0193-5
12. Welton DG, Elliott JA, Kimmelstiel P. Epithelioma; clinical and histologic data on 1025 lesions. *Arch Dermatol.* 1949;60:277-93. DOI: 10.1001/archderm.1949.01530020145018
13. Weitzner S. Basal cell carcinoma of the vermilion mucosa and skin of the lip. *Oral Surg Oral Med Oral Pathol.* 1975;39:634-7. DOI: 10.1016/0030-4220(75)90206-6
14. Oriba HA, Sandermann S, Kircik L, Snow SN. Basal cell carcinoma of the vermilion zone of the lower lip: a report of 3 cases. *Oral Oncol.* 1998;34:309-12. DOI: 10.1016/s1368-8375(98)80013-4
15. Paniker PU, Mellette JR. A simple technique for repair of Cupid's bow. *Dermatol Surg.* 2003;29:636-40. DOI: 10.1046/j.1524-4725.2003.29152.x. PMID: 12786709.
16. Vaianti L, Zilio D, Di Matteo A, Riccio M, Marchesi A. Central upper lip reconstruction by two vermilion flaps and a rotational skin flap. *Dermatology.* 2012;224:130-3. DOI: 10.1159/000338026. Epub 2012 May 3. PMID: 22572156.