



Case Report

A successfully treated Basal Cell Carcinoma using elliptical excision surgery

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ABSTRACT

Basal cell carcinoma (BCC) is a non-keratinization cell-derived neoplasm. Surgical excision is the most common way to remove a tumor. The excision depends on the tumor type, size, and location. This paper reported a 44- years-old woman presented with the chief complaint of a single bump that bleeds easily in the facial region that began one year ago. Dermatology examination revealed hyperpigmented plaque with an ulcer in central, solitary, oval, 2 cm x 1 cm in size, covered with blackish crust on top. A Dermoscopy examination showed blue dots and globules, arborizing vessels, and ulceration. Histopathology examination findings were in concordance with BCC. The patient was treated with elliptical surgical excision. The lesion was successfully removed and showed good results with minimal scarring. BCC occurs in 75% of all skin cancers. Elliptical surgical excision on the left cheek was performed after considering the location anatomy, defect size, age, and general condition patient and postoperative cosmetic estimates. The minimal scar that occurs is planned to be performed with a fractional laser. The prognosis is generally good. There is no recurrence until one year later. In conclusion, elliptical surgical excision is an effective standard treatment if performed with a safe margin. In this case, we used 5 mm safe outer margin.



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INTRODUCTION

As the most general carcinoma category, Basal cell carcinoma (BCC) consists of melanoma and non-melanoma skin cancer (NMSC) (Leiter, Ulrike, Thomas Eigentler, 2014). BCC is the most common human skin cancer, increasing incidence rates worldwide. Men generally have higher rates of BCC than women (Al Wohaib *et al.*, 2018).

High BCC predilection occurs in the head or neck (52%), trunk (27%), upper arm or leg (13%), and arm or lower leg (8%) (Carucci and Leffell, 2012). If by area calculated body surface, the highest number was found in both men and women, namely on the face, especially the eyelids, lips, and nasolabial folds, followed by the ears, nose, and cheeks. BCC can also appear on the neck, back, shoulders, and arm parts outside the Australian population (Sundoro *et al.*, 2021).

Exposure to the sun becomes the primary source of threat for a patient with BCC (Apalla *et al.*, 2017). However, it is believed that more factors present to worsen this condition, including multiple modifiable and nonmodifiable risk factors (Dai *et al.*, 2018). Although it rarely spreads and develops rapidly, mortality can be the crucial result of BCC, which can occur with the deterioration of local tissues permeable into the vital underlying organs (De Giorgi *et al.*, 2020).

BCC has several subtypes different and can appear in other anatomic locations also. Early clinical BCC generally is small, translucent, or pearly and appears in areas with dilated blood vessels (telangiectasia). The presence of lesions that do not heal should be considered in the direction of skin cancer. BCC is often diagnosed in patients with easy lesions bleeding, who recover completely, and then relapse return (Sumaira and Brent, 2012).

BCC therapy is carried out based on the location and histologic picture. BCC therapy can be performed surgically and non-surgically. It is essential to differentiate between primary and recurrent tumors, which may lead to differences in therapeutic modalities and possible cure rates (Carucci and Leffell, 2012). Surgical techniques include curettage and cautery, cryosurgery (with liquid nitrogen), excision, and 'Mohs' micrographic surgery. The best chance to heal is with therapy adequate primary BCC because recurrent tumors are more likely to relapse and cause local destruction further (Sumaira and Brent, 2012). However, the options for multiple treatments for BCC are available these days. This report describes a case of a patient suffering from BCC treated with elliptical excision surgery. Elliptical excision is indicated to remove benign or malignant neoplasms of small to medium size (Jiang *et al.*, 2007). Excision surgery is effective because the healing time is relatively short, the cure rate is around 90%, and the results are cosmetically satisfactory (Verkouteren *et al.*, 2017). This paper reported a 44-year-old Basal Cell Carcinoma patient who successfully treated using elliptical excision surgery

CASE REPORT

A 44-year-old female patient visited the Dermatology and Venereology Outpatient Unit on February 24, 2021, complaining of a lump that had been bleeding easily since 1 year ago. The lesion begins as a small, reddish lump that grows in size. The longer it lasts, the wider and becomes blackish, accompanied by itching. She's felt that the lump is bleeding more frequently and is quite a pain. The patient said she was often exposed to the sun when drying clothes. She rarely used sunscreen and never wore a hat or shield when exposed to the sun. There is no history of keloid or family members having cancer. No family members suffered from the same disease.

A good general condition was concluded as the result of a physical examination recording 140/90 mmHg for blood pressure, 80 beats per minute for pulse rate, 18 times per minute for respiratory rate, and 36.0 degree Celsius for body temperature. Head and neck examination showed no anemia, icterus, cyanosis, or dyspnea. Physical examination revealed no cardiac, pulmonary, liver, or spleen abnormalities. Lymph node enlargement on the neck, axillae, and groins was not palpable. Dermatologic examination showed hyperpigmented plaque et erythematous, clearly defined size 2 cm x 1 cm, covered with blackish crust on top and accompanied by an ulcer in the middle on regio facialis (Figure 1). Supporting examination included dermoscopy examination; there were asymmetrical lesions, irregular borders, and then blue dots and globules (orange arrows), and arborizing vessels in black star, namely telangiectasia with an unregulated pattern, and there was ulceration. Histopathology result was achieved two weeks after. It showed tumor growth arranged in solid nests, consisting of a

proliferation of anaplastic basal epithelial cells with round-oval nuclei, mild pleomorphic, hyperchromatic, narrow cytoplasm. Tumors were arranged in palisade on the edges, partly arranged to form hair follicles. The conclusion was a pigmented basal cell carcinoma with adnexa tissue differential. Based, and border tissues were free from tumor cells. The final diagnosis was basal cell carcinoma.

Diagnosis of BCC was made for the patient according to the results of physical and supporting examination along with the historical background check related to BCC. When the lesion is relatively small, it could be removed by simple elliptical excision. The patient comes back on March 9 for elliptical excision.

Regularly performed control examinations found no complications 2 months after the operation. The patient considers the functional and cosmetic results of the procedure as excellent.

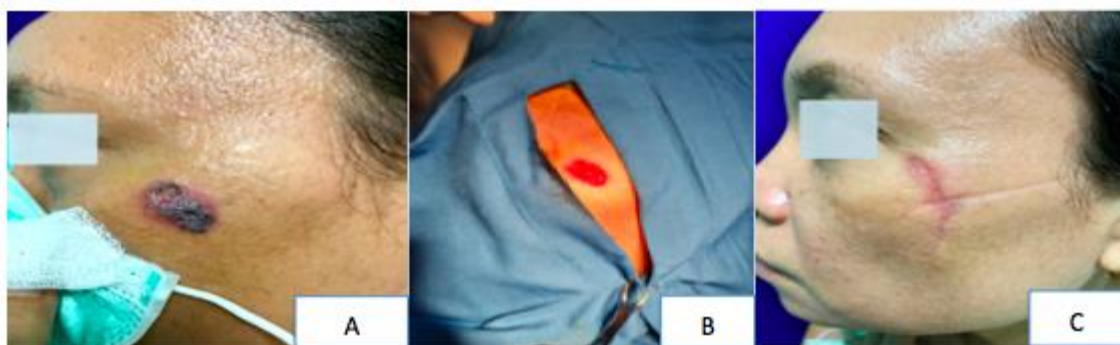


Figure 1. A. Hyperpigmented plaque et erythematous, clearly defined size 2cm x 1cm covered with blackish crust on top and accompanied by an ulcer in the middle on region facialis. B. The tumor is excised with 5 mm safe outer margin to achieve free tumor. C. Postoperative day 28, tissue was seen minimal scarring.

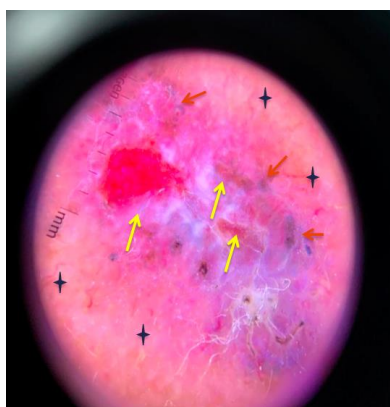


Figure 2. Asymmetrical lesions, irregular borders, and then blue dots and globules (orange arrows), and arborizing vessels, in black star, namely telangiectasia with unregulated pattern and also shows ulceration (yellow arrows).

DISCUSSION

BCC is the most prevalent category of human cancer. Incidence is growing rapidly by 3 to 10% per year (Tang, Epstein and Oro, 2019). At a minimum, patients are much more likely to increase a second BCC in the event that they have a BCC records as compared to sufferers without a records of non-melanoma skin cancer (Skoda *et al.*, 2018). UV light is the top etiological within the improvement of BCC, especially the UVB wavelengths. However, UVA wavelengths also can be expected. A detailed review of the literature with meta-analysis and sensitivity analysis shows a significantly higher risk for outdoor workers, with an inverse courting among occupational UV publicity and BCC chance with latitude. The Fitzpatrick skin is a superb predictor of the relative opportunity of BCC amongst white race individuals (Kamath *et al.*, 2018); (Martens *et al.*, 2018).

Most BCC causes are the UVR exposure to the skin, particularly the ultraviolet (UV) B spectrum, which is able to induce tumor suppressor genetic mutations, deteriorate DNA contributing to the genetic alterations

and neoplasms, and also p53 tumor suppressor genetic mutations (50% cases) (Wozniak-Rito, Zalaudek and Rudnicka, 2018). The increased environmental degradation, especially related to ozone depletion, skin bleaching cultures, and the use of tanning beds, are among the increased risk factors for BCC. Other risk factors are commonly associated in organ transplant recipients with exposures to therapeutic ionizing radiation and immunosuppression (Litaie *et al.*, 2020).

Diagnosis of BCC can be supported with histopathology and dermoscopy (Litaie *et al.*, 2020). A skin biopsy is essential for clinical confirmation of BCC. A shave, punch, or excisional biopsy are all options, taking care to consist of a few part of the epidermis withinside the specimen to distinguish among superficial and different invasive histologic subtypes of BCC. Punch and shave biopsy can also be done for histopathology examination (Weber *et al.*, 2018). Dermoscopy may be helpful to the clinician, helping the analysis of non-pigmented and pigmented BCCs. The hallmark of BCC on dermoscopy is the presence of well-targeted arborizing vessels. Additional findings encompass a couple of blue-grey globules, leaf-



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like structures, massive blue-grey ovoid nests, and spoke-wheel areas (Cameron *et al.*, 2019). The application of dermoscopy can enhance the precision of the diagnostic and provide variants of BCC's certain subtypes (Litaïem *et al.*, 2020). Meanwhile, the final and determining diagnosis is crucially concluded by using histopathology (Marzuka and Book, 2015).

Therapy depends on the patient's age and gender in addition to the size, site, and form of the lesion. No single treatment technique is right for all lesions or all sufferers. A biopsy has to be finished in all sufferers with suspected BCC to affirm the prognosis and determine the histologic subtype. Treatment of BCC is typically surgical; however, a few sorts of BCC are amenable to clinical or radiation. The numerous kinds of therapy consist of Mohs micrographic surgery (MMS), surgical excision, EDC, radiation, photodynamic therapy, cryosurgery, topical therapies, and systemic medications such as Vismodegib (Hughley and Schmalbach, 2018).

The principal goals of treatment for BCC are (1) to excise the tumor completely so that there is no recurrence of the tumor at a later time, (2) to avoid any functional impairment resulting from the excision of the tumor, and (3) to provide the best possible cosmetic outcome, especially for the lesions that are on the face (Drucker *et al.*, 2018).

Management of this patient used elliptical excision surgery (Litaïem *et al.*, 2020). Elliptical excision is indicated to remove benign or malignant neoplasms small to medium in size (Robinson, 2008). Excision ellipse provides good cosmetics with minimized tissue lift, movement of skin, and incision length (Goldberg and Alam, 2004). For cosmetic results, optimal elliptical excision should be oriented along the RSTL, which is generally perpendicular to muscle pull in the area (Aasi and Pennington, 2008). We usually make 3-5mm safe outer margin before excision to ensure tumor-free on the preserved tissue.

Table 1. Several factors independently affect the likelihood of cure.

| Factors | Description |
|-----------------|---|
| Anatomical site | The 'H zone' (face, nose and ear) on the face is often referred to as a site where tumours are most difficult to eradicate. |
| Size | The European Dermatology Forum (EDF) guidelines on surgical excision margins of BCC recommends 3 to 4 mm peripheral margins for low-risk BCC, and 5 to 10 mm peripheral margins for high-risk BCC |
| BCC sub-type | BCCs with a morphoeic growth pattern often have indistinct margins with a large extent of sub-clinical tumour invasion. |

Source: Kappelin et al., (2020)



Table 2. Data from the studies with the title of BCC and conclusion

| Author and year | Country | Purpose of the study | Result |
|---------------------------------|---------|--|--|
| Ito <i>et al.</i> , (2015) | Japan | A narrow excision margin is a reliable method for the excision of well-demarcated, primary-pigmented BCC | Surgical removal with a 2-3mm excision margin is an adequate treatment for well-defined, primary-pigmented BCC, with a 99% complete removal rate |
| Lin <i>et al.</i> , (2016) | Taiwan | Treatment of pigmented BCC with 3mm surgical margin in Asians | The study suggests that a 3mm margin is reliable for the excision of pigmented BCC. Nonpigmented BCC had a higher risk for recurrence and thus needs careful follow up |
| Ünverdi, Yücel and Berk, (2020) | Turkey | Recommended surgical margins for BCC is 3 mm safe enough? | A 3-mm surgical margin is sufficient for BCC excision |

Source: Sohail J, (2020)

The prognosis of BCC patients is generally good (Verkouteren *et al.*, 2017). BCC rarely becomes a deadly outcome. One study reported a 5-year survival rate for primary BCC treated with surgical excision of 95.2%. However, all treatments that have been carried out must be continuously monitored, considering that about 20% of recurrences usually occur between 6-10 years postoperatively, and it is estimated that 40%-50% of patients with primary carcinoma will develop at least one or more BCC within five years (Low, Alexander and Lomas, 2015) with appropriate treatment, the prognosis for most BCC patients is excellent (Carucci and Leffell, 2012). The risk of recurrence depends

on the BCC area and histopathological features (Newlands *et al.*, 2016). Patients should follow up after therapeutic procedures to see any signs of recurrence, and generally, follow-up is done in the third and fifth year (Kasumagic-Halilovic, Hasic and Ovcina-Kurtovic, 2019). It is recommended that patients with a history of BCC conduct full-body skin examinations and sun protection counseling periodically (Kasumagic-Halilovic, Hasic and Ovcina-Kurtovic, 2019). It is because the increased threat of melanoma occurs in patients with a history of BCC. In addition, protecting the skin from UV exposure during childhood and adolescence can be the main strategy for decreasing the risk of getting BCC (Sreekantaswamy *et al.*, 2019).



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CONCLUSION

This report describes a successful treatment of elliptical excision surgery in a BCC case. The patient's history, along with both physical and supporting examinations, e.g. dermoscopy and histopathology, were implemented for deriving a diagnosis. Elliptical excision surgery is the effective standard treatment for BCC as long as it is performed with a safe margin.

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