

Research Article

Open Access, Volume 5

Clinical Manifestations and Therapeutic Observation of 123 Cases of Basal Cell Carcinoma of the Skin

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Abstract

From December 2017 to December 2022, the clinical data and surgery of 123 patients with basal cell carcinoma of the skin diagnosed by Chaohu Hospital of Anhui Medical University were retrospectively analyzed to study the clinical characteristics and treatment effects of basal cell carcinoma. The male-to-female ratio was 1.16:1, the average age of onset was (65.58±12.86) years old, and 22 cases were misdiagnosed. Patients aged between 40-60 years accounted for 80.55%. Duration of disease ranged from 1 month to 20 years with a median of 4 years. Head and face accounted for 93.06% followed by trunk 4.17% and limbs 2.78%. Nodular ulcerative type (both nodular and ulcerative) accounted for 71.54%, pigmented type 17.07%, sclerotic type 4.07% and others (superficial, fibroepidermoid, etc.) 6.50%. 13.01% of the patients had other dermatological complications of which actinic keratoses were the most common. No recurrence was found after combination of other treatments. Basal cell carcinoma is most common in middle-aged and elderly people, especially on the face. Nodular ulcers are the predominant type at this site and can be combined with other skin tumors and skin allergic diseases. Patients with uncertain surgical outcome can be combined with other adjuvant treatments.

Keywords: Basal cell carcinoma; Clinical characteristics; Curative effect.

Introduction

Basal Cell Carcinoma (BCC) is a malignant tumor of the skin originating from the basal layer of the epidermis and its appendages, and is one of the most common malignant tumors in dermatology. The disease is a low-grade malignancy with a slow course of progression. Long-term ultraviolet exposure is one of the most important risk factors, and it is more common in middle-aged and elderly people, especially in sun-exposed areas such as the face and face [1]. There are still many cases of non-exposed parts, such as the neck, trunk, limbs, perineum and perianal areas. The etiology of BCC is complex and may involve multiple factors. In recent years, the incidence of BCC has been on the rise worldwide, threatening the lives and health of patients, so it is necessary to

analyze the clinical characteristics and treatment effects of basal cell carcinoma of the skin. This study retrospectively analyzed the clinical data and surgical efficacy of patients with BCC confirmed by biopsy in the Department of Dermatology, Chaohu Hospital, Anhui Medical University from December 2017 - December 2022, and is reported as follows.

Clinical data and ethics

Study design and ethics

In this study, a total of 123 patients with BCC confirmed by pathological biopsy were admitted to our hospital from December 2017 to December 2022. Approved by the Ethics Committee of Chaohu Hospital Affiliated to Anhui Medical University (KYXM-

Manuscript Information: Received: Feb 14, 2025; Accepted: Mar 11, 2025; Published: Mar 18, 2025

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Citation: Lin H, Zhang M. Clinical Manifestations and Therapeutic Observation of 123 Cases of Basal Cell Carcinoma of the Skin. *J Oncology*. 2025; 5(2): 1172.

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202304-007). We demonstrate that the study was conducted in accordance with the 1964 Declaration of Helsinki and subsequent amendments. Written informed consent was obtained from all participants prior to enrollment in this study.

Clinical data

From December 2017 to December 2022, 123 cases of BCC patients were diagnosed by pathological biopsy in Chaohu Hospital Affiliated to Anhui Medical University. Male 66 cases, female 57 cases, male to female ratio 1.16:1.; age of onset (38~94) years, the average age of onset is (65.58±12.86) years, male and female onset age distribution is not statistically different ($\chi^2=2.116$, $P>0.05$). The duration of consultation was shorter in males (3.10±2.92) than in females (6.10±6.55) years, which was statistically significant ($P<0.01$).

Table 1: General information about the patient.

Groups	N	Age (Years)				Disease Duration (years)
		<40	40~59	60~79	≥80	
Male	66	1	23	35	7	3.10±2.92
Female	57	0	16	33	8	6.10±6.55
$\chi^2(t)$		2.116				3.201
P		0.549				0.002

Survey on willingness to consult

63 cases of active consultation and 4 cases of passive consultation in the <60 years old group, with an active consultation rate of 94.03%; 17 cases of active consultation and 39 cases of passive consultation in the ≥60 years old group, with an active consultation rate of 30.36%, and there was a statistically significant difference between the two groups, as shown in (Table 2).

Table 2: Patients' willingness to attend.

Groups	How to visit the clinic ¹	How to visit the clinic ²	Sum	χ^2	P
<60	63(94.03)	4(5.97)	67(54.47)	55.157	<0.01
≥60	17(30.36)	39(69.64)	56(45.53)		
Sum	80(65.04)	43(34.96)	123(100.00)		

Marginal notes: 1: Seek medical advice on one's own initiative; 2: Passive inpatient service.

Clinical and pathological types nodular ulcerative type (including nodular or ulcerative type)

88 cases (71.54%), pigmented type: 21 cases (17.07%), sclerotic type 5 cases (4.07%), and others (superficial, fibroepithelioma type, etc.) 8 cases (6.50%). A total of 118 cases (93.06%) were located in the head and face, 3 cases (4.17%) in the trunk, and 2 cases (2.78%) in the limbs, and there was no statistically significant difference in their distribution ($\chi^2=10.235$, $P>0.05$), as shown in Table 3.3. 3 cases had mild pain (2.44%), 4 cases had mild itching and discomfort (3.25%), and 2 cases had both pain and itching (1.63%). The rest had no symptoms.

Misdiagnosis

There were 19 cases of misdiagnosis with a misdiagnosis rate of 15.45%. Initial misdiagnosis was made in 4 cases (3.25%), which

were seborrheic keratosis in 2 cases (1.63%), squamous carcinoma in 1 case (0.81%) and Bowen's disease in 1 case (0.81%). Due to non-pigmented type had been misdiagnosed several times in 15 cases (12.20%) as cysts in 9 cases (7.32%) as shown in (Figure 1), as keloids in 2 cases (2.44%) as shown in (Figure 2), as dental fistula in 2 cases (1.63%), as chronic inflammation of lacrimal duct in 1 case as shown in (Figures 3-4), as well as eczema of the ear in 1 case (0.81%) as shown in (Figure 5).

Table 3: Distribution of patients by clinical type.

Groups ulcer type based	Nodular	Pigment	Sclerotic	Other types	Sum
Head	87(73.73)	19(16.10)	5(4.24)	7(5.93)	118(93.06) face
Trunk	0(0.00)	2(66.67)	0(0.00)	1(33.33)	3(4.17)
Limb	1(50.00)	1(50.00)	0(0.00)	0(0.00)	2(2.78)
Sum	88(71.54)	21(17.07)	5(4.07)	8(6.50)	123(100.00)



Figure 1: Sclerosing type repeatedly.



Figure 2: Nodular type repeatedly misdiagnosed as a cyst misdiagnosed as keloids.



Figure 3: Pigmented ulcer type.



Figure 6: Basal cell carcinoma combined with squamous carcinoma.

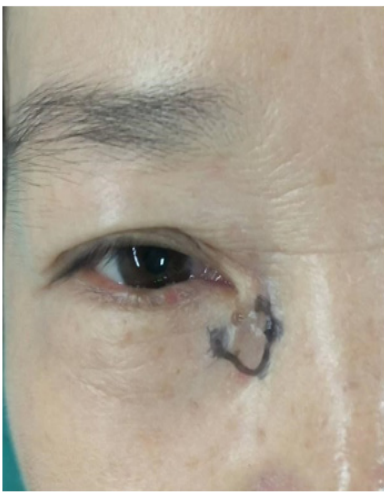


Figure 4: Misdiagnosed as a tear duct concomitant periodontitis repeatedly infection misdiagnosed as dental fistulae.



Figure 5: Superficial form repeatedly misdiagnosed as ear eczema.

Combination of other diseases

Combined with other skin diseases 16 cases (13.01%). 8 cases of solar keratosis, 2 cases of solar keratosis and squamous skin cancer (Figure 6), 3 cases of psoriasis, 2 cases of urticaria, and 1 case of atopic dermatitis.

Prognosis

One case of superficial type patient was diagnosed by pathology, the family thought that the patient was old and there was no need for treatment, so they gave up the treatment. 1 year later, the tumor appeared to be shedding phenomenon, the black necrotic scabs could be easily pushed away with a little force with a cotton swab, under which was the normal skin, and at present, there was no recurrence in the follow up, see (Figure 7). 2 patients chose to have surgical treatment in overseas hospitals, and the rest of the 120 cases chose to have surgical treatment in our department, among which, 110 cases were completely resected by Mohs surgery for one time, and 9 cases were expanded twice in the operation. complete resection, 9 cases of intraoperative secondary expansion of the resection, 3 cases of patients in the surgical process of the tumor was accidentally cut off, Mohs surgery reference value is affected, so the postoperative monthly combined 2% lidocaine injection 5 ml + Recombinant human Interferon α (INF- α) 100u + 5-Fluorouracil (5-FU) appropriate amount of mixture in the resection area of the local injection treatment, 1 time per month, a total of 3 times; surgical incision open combined photodynamic therapy 2 cases, 1 time per week, a total of 3 times, later change the second stage of healing. All patients did not see recurrence or distant metastasis.



Figure 7: Skin lesions fall off on their own.

Discussion

BCC is a low-grade malignant skin tumor derived from basal cells with multiple potential differentiation, and the prevalence accounts for 75%-80% of non-melanotic malignant tumors of the skin [2], BCC is a malignant tumor derived from the epidermis or its appendages, especially the basal cells of hair follicles, and is one of the most common malignant tumors in dermatology, which often occurs in elderly men, but the incidence of young people is also increasing year by year. Because long-term sun exposure is one of the important predisposing factors of the disease, BCC is highly prevalent in sun-exposed areas such as the face, hands and feet [3]. In this retrospective study, the male-to-female ratio of patients with BCC was 1.16:1, with approximately more males than females, similar to other reported results [3]. Possible reasons: 1) Men are more engaged in outdoor work than women, and the probability of exposure to ultraviolet light is much higher than that of women [1]; 2) there is growing evidence that non-ultraviolet radiation factors, such as sex hormones, play a protective role in BCC [4]; 3) Older men may pay more attention to personal health, resulting in a higher probability of medical treatment than older women. This study showed that the peak age of medical treatment was 60~80 years old, accounting for 55.28%, and 93.06% were mainly head and face. In foreign studies, 89.50% were over 60 years old, 98.50% were head and neck, and the positive rate of surgical margins was 9%, and the recurrence rate was 1.5% [5]. There are some differences between the two, which may be related to cultural differences, desire to seek medical treatment, health awareness, economic level, geographical environment and other factors.

BCC can invade along the surrounding skin appendage tissues such as sweat glands, skin glands, and hair follicles, and can occur on the basis of certain skin lesions such as actinic keratosis, chronic ulcers, chronic infections, and scar tissue [6], so the clinical manifestations are polymorphic, such as small papules, nodules, and pigmented plaques at first, and black, brown, and dark red skin lesions with no obvious specificity [7,8], so they are easy to be misdiagnosed at the initial diagnosis. Clinically, the diagnosis of cutaneous BCC depends on medical history, clinical characteristics of skin lesions, dermoscopy and skin biopsy histopathological examination, among which dermoscopy can be early identification, effectively reduce the misdiagnosis rate, and have important clinical value for early diagnosis and treatment. However, the gold standard for the diagnosis of cutaneous BCC remains histopathological examination, with nodular ulceration being the most common pathological type, followed by pigmented type, similar to other studies [9,10]. The need for dermoscopy is still supported by the need for dermoscopy as it can detect abnormal skin structures at an early stage and follow up regularly to avoid chances. In this study, a small number of BCC patients with atypical clinical symptoms were misdiagnosed with ear eczema, cysts, keloids, and dental fistulas, so skin biopsy is essential to confirm the diagnosis and assess the risk of the disease. In foreign studies,

30.20% of the cases were misdiagnosed as pigmented nevi [11]. With the popularization and attention of science in China in recent years, cases of misdiagnosis of moles have become very rare. This study shows that most patients have no symptoms, so patients often delay treatment because their symptoms are not obvious and are considered insignificant. However, the results of

this study were the opposite, and the active medical treatment rate over 60 years old was significantly lower than that of people under 60 years old, which was statistically significant ($P < 0.05$), suggesting that the older the age, the less attention to skin health, or other concerns such as financial and troublesome children.

BCC can be combined with other skin diseases such as psoriasis, urticaria, and atopic dermatitis, but whether there is a certain association between the two needs to be further investigated [12,13]. Current studies suggest that the pathogenesis of psoriasis, skin fibrosis, scleroderma, BCC, and squamous cell carcinoma may be related to dysregulation of the common pathway, the JNK pathway [14].

BCC is a malignant skin tumor and is not sensitive to radiation, so radiation therapy is generally not recommended [15]. In this study, one patient with superficial type developed self-healing, and the superficial type was relatively good. Surgical excision is currently the most effective treatment for BCC [16], and intralesional injection of 5-fluorouracil (5-FU) is an effective alternative or effective means of postoperative salvage in patients who are reluctant to undergo surgery [17,18], and is superior to other chemotherapeutic agents. Recombinant human Interferon Alpha-2b (IFN- α 2b) has been successfully used for the intralesional treatment of BCC [19]. Studies have shown that intralesional injection of IFN- α 2b in the treatment of BCC is comparable to that of surgery [20,21]. In this study, the integrity of the tumor tissue was destroyed due to a variety of factors during the operation, and it is not very certain that the tumor tissue was completely removed, so skin grafting or open secondary healing should be selected, and an appropriate amount of 2% lidocaine injection 5 ml + IFN α 2b 100u + 5-FU 0.25 mg mixture should be injected into the incision every month after 2 weeks, a total of 3 times. In this study, 3 patients were treated with IFN- α combined with 5-FU local injection after surgery, which can be used as a reference. In addition, photodynamic therapy can be used in patients who are able to do so [22-24], and a combination of photodynamic therapy (once a week for a total of three times) during or after surgery is also a good postoperative remedy [21]. In this study, 2 patients were treated with postoperative photodynamic therapy, and both patients achieved satisfactory efficacy. In this study, skin grafting or vacant treatment was used for uncertain surgery, and the treatment effect was satisfactory in combination with other treatments in the later stage.

For the very few cases of advanced and BCC metastases, treatment remains a significant clinical challenge. Recently, it has been reported that Hedgehog signaling inhibitors, such as vemodigib and sonedigil, have been successfully used as targeted therapies for advanced BCC [24,25]. It can be used as a new treatment option. Limitations in this study: The selected cases in this study are patients in or around the region, so this study has a regional nature; Treatment with Hedgehog signaling inhibitors [26,27] has not been tried.

Conclusion

In summary, this study shows that BCC is more common in the face of middle-aged and elderly people, and men are more likely to be misdiagnosed than women, and non-melanogenic BCC is easy to be misdiagnosed. BCC is a benign tumor, and a very small number of patients have self-healing, and no distant metastasis

has been found. Surgical complete excision is the best treatment for BCC, and if surgery may be left over, it can be combined with photodynamic and local injection. In the future, it is our common direction to find more convenient and economical treatment methods with a high cure rate of tumors.

Declarations

Data availability statement: The data underlying this article will be shared on reasonable request to the corresponding author.

Conflicts of interest: The authors declare no competing interests.

Data availability statement: The data underlying this article will be shared on reasonable request to the corresponding author.

Authors' contributions: Haoying Lin: Drafting and editing of the manuscript; review of the bibliography; review of the manuscript; approval of the final version of the manuscript. Minghai Zhang: Effective participation in research orientation; critical review of the literature; critical review of the manuscript; approval of the final version of the manuscript.

Acknowledgements: We would like to give our heartfelt thanks to all participants in this study. In addition, my sincere and hearty thanks and appreciations go firstly to my supervisor, Mr. Zhang Minghai, whose encouragement and suggestions have given me much help in this study. Finally, I am also extremely grateful to all my friends and classmates who have kindly provided me assistance and companionship.

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