

The relationship between incompletely excised basal cell carcinoma and recurrence rate

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الخلاصة

هذه الدراسة تبين العلاقة بين خلو اطراف عينة السرطان الخلوي القاعدي المستأصل من منطقة الرأس والرقبة من خلايا السرطان ونسبة رجوع الورم. حيث شملت هذه الدراسة خمسة وستون مريض في مستشفى الديوانية التعليمي خضعوا لاستئصال جراحي للسرطان الخلوي القاعدي بين عامي 2007 و2008 مع المتابعة السريرية لمدة ثلاث سنوات. لقد تم تقييم المرضى على اساس مكان ونوع الورم واذا كانت اطراف الورم تحتوي على الخلايا السرطانية او لا في الفحص النسيجي ونسبة رجوع الورم وكذلك جنس وعمر المريض. اما بالنسبة لحجم الورم فقد كان اقل من 2 سم لكل المرضى. لقد تم الاستنتاج بان خطر رجوع الورم كان غالبا في المرضى الاصغر عمرا ونصح بالمراقبة السريرية لبقية المرضى.

Abstract

Objective :To define the relationship between margin of clearance at sites of excision and the recurrence rate of basal cell carcinoma in head and neck region

Methods: This study was conducted on 65 patients in Al-Diwanyia teaching hospital who underwent surgery for basal cell carcinoma in the head neck region between 2007 and 2008 and followed up for a period of 3 years .The patients were evaluated according to: site and type of Bcc ,whether or not the excision was complete ,tumor recurrence , gender and age of the patients .

The size of tumor was less than 2cm in all patients

Conclusion: a risk of recurrence in incompletely excised basal cell carcinoma was more common in younger age group patients and we recommend close clinical follow up for other patients .

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Introduction

Basal cell carcinoma(Bcc) is the most common human malignancy world wide (1).It account for more than 75% of skin cancers in the united states .The disease predominantly affects people with white skin ,and the male to female ratio is 3:2 (1).It rarely metastasied ,but it is still considered as malignancy because it can cause destruction and disfigurement.

The risk of a second cutaneous carcinoma , either Bcc or squamous cell carcinoma ,is reported to be 20% within 18 months in one study (2) and 36 to 50% within 5 years in other studies(3,4) Bcc can be divided into the following types :nodular ,cystic ,morpheoform ,infiltrative ,micro -nodular ,superficial ,pigmented and rodent ulcer(Jacobi ulcer)(5,6)

Distribution:

About two-third of Bcc occur on sun-exposed areas of the body .One-third occur on areas of the body that are not exposed to sun light ,emphasizing that genetic susceptibility of Bcc patients.

Diagnosis:

The presence of a Bcc is documented by pathologic examination of a tissue specimen obtained by curettage ,shave biopsy ,punch biopsy ,an incisional biopsy ,or excision in toto .Microscopic evidence of Bcc include cytologically atypical cells with darkly staining ,large ,oval, elongated ,nuclei and little cytoplasm ,collected in masses of various sizes with palisading of the cells at the periphery of the masses and retraction artifact about the masses .A cystic Bcc will contain large masses of mucin , while fibrosis may be so striking in morpheoform Bcc that the tumor cells are difficult to detect (1).

Treatment of Bcc:

The treatment of Bcc depends on its type ,size and location ,the number and preference or expertise of the doctor(7).

- 1.Shave ,curettage and cautery .Many small ,well defined nodular or superficial Bcc can be successfully removed by removing just the top layers of the skin.
- 2.Excision ,cuts the tumor out and uses stitches to place the skin back together. The cure rate for this method is totally dependent on the

surgical margin .When standerd surgical margin is applied (usually 4 or more)(8) ,a high cure rate can be achieved with standerd excision(9) .

3.Mohs surgery ,in which skin is cut out and immediately looked at under microscope to check for cancer . The process is repeated until the skin sample is free of cancer (10).

4.Cryosurgery freezes and kill the cancer cells.(10)

5.Radiation may be used for the tumor that cannot be treated with surgery ,When the cancer spread to lymph node or other organs.(10)

6.Skin creams with medication imiquimod or 5-fluorouracil may be used to treat superficial Bcc.(10)

Recurrent Bcc:

Defined as tumor that is diagnosed within the immediate area of previously removed Bcc .The recurrence must have the same histopathology as the original tumor .Definite signs that alert the physician to the possible presence of recurrence skin cancer are as

Follows :

Scarring with intermittent ulceration or becomes red ,scaled and crusted or an enlarging scar with increased telangiectasia in the adjacent area and development of papule or nodule formation within the scar itself and tissue distruction .(11)

Following extirpation ,5 years recurrence rates of 0% to 9% for primary tumors and up to 47% for recurrent Bcc have been reported(11).

Incompletely excised Bcc:

Incomplete excision was defined as the presence of tumor tissue at the margins of resection in the final histological report(12) and incomplete resection of a Bcc does not necessarily imply tumor recurrence (13).Possible reasons for non recurrence may include an immune reaction ,inflammation or devitalization of the residual tumor tissue (14)

When physicians receive a pathology report indicating the incomplete excision of a Bcc ,they face the delimma of further management , whether re operation or wait and see. In the present study we evaluated whether residual tumor tissue is indicative of tumor recurrence and what are the risk factors for the recurrence , in order to ensure that only those for re operation is mandatory are subjected to further surgery .

Patients and methods

Sixty -five patients with Bcc in head and neck region ,30 patients were female and 25 were male with average age between 35 and 80 years were treated by surgical excision in Al.Diwanyia teaching hospital between 2007 and 2008 and followed up for a period of 3 years studied clinically and evaluated according to:

1. Site and type of Bcc .
- 2.Wether or not the excision was complete .
- 3.Tumor recurrence .
- 4.Sex and age of the patients and its relation to other parameters .

The size of tumor was less than 2 cm in all patients .

The statistical test was used is the chi-square test and p-values less than 0.05 were considered significant .

Operative measures:

- 1.Anesthesia: all patients were operated on under local anesthesia.
- 2.Surgical technique: excision of tumor with 3-5 mm safety margin .The closure of the defect was done at the same time by direct closure or use skin graft or flap if the defect was large .
- 3.We send the excised tumor for histopathology department. In those cases in which the surgical margins were involved by tumor ,postoperative monitoring was the only approach used

Follow up:

The stitches removed 5 to7 days after surgery and the follow up of the patients done by a visit every one month for the 1st six months after surgery and a visit every three months after that ,looking for signs of recurrent tumor .

Results

The total number of patients involved in this study was 65 patients, 35 patients were female (53.8%) and 30 patients were male (46.2%) with male to female ratio 1:1.2 .

Margins were negative in 55 (84.6%) and positive in 10 (15.4%) Of the 30 females in whom margins were negative ,recurrence was found in 6 and of the 5 females in whom margins were positive ,recurrence was found in 2.

Of the 25 males patients with negative margins ,there was a recurrence in 1and of the 5 males patients with positive margins there was also one recurrence .Gender not associated with recurrence rate where p value=0.791 .

The mean age of patients was 63.8 years range35-80 years.In case of the completely excised tumors ,the mean age of the patients who had recurrence had no greater difference than the mean of those whom not develop recurrence(62and64)years respectively .While ,the mean age of the patients with positive margins and recurrence 57 years was significantly lower than the mean age of 70 years of the patients with a negative margins who had no recurrence ($p=0.01$) .

The most common site of the Bcc was on the nose(16 patients) , followed by scalp (12 patients) ,cheeks (10 patients) ,lower eye lid (10 patients) ,upper lip (10 patients) and upper lid (7 patients)

Most of the recurrence occurred on the nose (5/16 tumors ,31.3%),3 were positive and 2 were negative margins , cheek (3/10 ,30%) ,upper lip(2/10 tumors ,20%) (all the margins in the recurrent cases in the cheek and the upper lip were free of tumor. There is no recurrence in scalp ,lower and upper eye lid.(table 1 below show sites of tumors)

There is significant relation between the site of tumor and the margin involvement in cases of non recurrent tumors (p value=0.012) but there is no significant relation in cases of recurrent tumors where the p value=0.117 .

The most common type of Bcc was nodular type (30 tumors ,46.2%), pigmented (20 tumors ,30.8%) ,cystic (8 tumors ,12.3%) micro-nodular (5 tumors ,7.7%) and 2 tumors were morpheoform type (3.1%) . Most of incompletely excised tumor occurred in nodular type Bcc (6/30 ,20%) ,pigmented type (3/20 ,15%) and cystic (1/8 ,12.5%) while no positive margins reported in micro nodular and morpheoform types 8 patients with nodular type developed recurrence (8/30 ,26.7%) ,3 with positive margins(3/6 ,50%) and 5 with negative margins(5/24 ,20.8%) .

One patient with pigmented type and one patient with morpheoform type Bcc (both completely excised) developed recurrence .There is no statistically significant relation between the type of Bcc and recurrence rate (p value=0.054)

Table (1) sites of tumors

Site of tumor	Number	Present(%)
Nose	16	24.6%
Scalp &for head	12	18.5%
Upper lip	10	15.4%
Cheeks	10	15.4%
Upper eye lid	7	10.8%
Lower eye lid	10	15.4%
Total	65	100

Table number (2) :types of Bcc

Type of Bcc	Number	Percent (%)
Nodular	30	46.2%
Pigmented	20	30.8%
Cystic	8	12.3%
Micro-nodular	5	7.7%
Morpheoform	2	3.1%
Total	65	100

Overall ,there was a recurrence in 10 cases of Bcc , 7 of them occurred in patients with negative margins and 3 in patients with positive margins.

The is no statistically significant difference between complete tumor excision and recurrence (p value=0.164)

In the 1st year following surgery , recurrence was found in 3 patients in whom the tumor had been incompletely excised .

In patients with completely excised tumor there were 3 recurrence in the 1st year following surgery and 4 in the in the 2nd year , while in the 3rd year there is no recurrence .

Table 3: Cumulative number of recurrence

Year of recurrence	Negative margins (N=55)	Positive margins (N=10)
1st	3	3
2 nd	7	3
3 rd	7	3

Discussion

Bcc is the most common human malignancy world wide .Griffiths,(12) 7% of cases of Bcc in his study were found to be incompletely excised .Kumar et al.(15) conducted a 1-year prospective study and that 34 out of 757 cases of Bcc (4-5%) of the head and neck were incompletely excised . In study conducted by Wilson et al. (16) ,6.2% of cases of Bcc of the head and neck were incompletely excised. However ,in the present study positive margins were found in 15.4% .

Wilson reported that ,the risk of incomplete excision was higher when the tumors were located in the medial canthus or lower eyelid (risk more than 10%) (16) . In the present study , most of incompletely excised tumors were in the nose and lower eye lid .

In the present study ,recurrence were most common in the nose (31.3%) ,and this statistically not significant where p value between site and recurrence equal to 0.071 .

Previous studies found recurrence rates in less than 10% in cases of incompletely excised , nonaggressive Bcc (17,18) .Boulinguez et al.(19) reported a low recurrence rate in initially nonaggressive cases of Bcc ,with an aggressive component found in 20% of cases. The probability of recurrence in cases of incompletely excised Bcc ranges from 30% to 50% , as reported in other studies (20) .Based on the fact that in 41% of re-excisions no residual tumor was detected , incomplete excision of Bcc does not appear to be synonymous with the persistence of residual tumor tissue (21) ,Wilson et al. (16) found residual tumor tissue in 45% of re-excised specimens. These investigators implemented a “wait and see policy” and reported recurrence in 21% of cases . in our study , disease recurrence within 3 year follow-up period was recorded in only 30% of the patients with positive margins and this statistically not significant (p value=0.164)

One explanation of why there were no clinical recurrence in the earlier studies may have been that the tumor tissue present in the margins may devitalized during the surgical procedure, e.g. by electrocautery disappearing after surgery (20) .Spontaneous regression of residue Bcc at the margin has been reported (22) and was thought to be related to the presence of a weak host response mediated by lymphocytes infiltrating the tumor (23)

In the 3-year follow-up in the present study, most recurrence in patients with negative margins occurred in the 2nd year (57.1% of all recurrence in cases of completely excised tumors), while in incompletely excised tumors all recurrence occurred in the 1st year following surgery. These data are not in agreement with Sussman (23), who states that most of the recurrence occur in 3rd year following surgery.

Males did not readily recognize the warning signs of Bcc, probably because they are less likely compared to women to perform self examination of their skin (24). Gender was not associated with recurrence rate in our study.

In the present study, the mean age of patients with positive margins and recurrence (57 years) was significantly lower than that of patients with positive margins and no recurrence (70.2 years).

Which appears to indicate that recurrence of incompletely excised Bcc is more common in younger individuals and these data in agreement with study performed by Irana Jankovic, et al (25).

Berlin J et al. (26) state incompletely excised Bcc of nodular subtype had less evidence of tumor recurrence, In our study nodular subtype was most common type develop recurrence but this statistically not significant (p value=0.054 between type and recurrence).

Conclusion and recommendation

There is no statistically significant association between head and neck Bcc excision and recurrence rate except in younger patients.

Most of recurrence occur in the 1st year following excision. Incomplete excision does not imply a certainty of recurrence. We recommend re-excision of incompletely excised Bcc in younger and uncooperative patients and close clinical follow up for others.

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