

Incidence of Basal Cell Carcinoma at Plastic Surgery Department of tertiary care hospital in Karachi

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Abstract:

Objective: To observe the epidemiology, etiology and clinical feature of basal cell carcinoma in patients treated surgically at Plastic Surgery Department in Civil Hospital, Karachi.

Study design: It is a retrospective study.

Setting & duration: This study was carried out at Plastic Surgery Department in Civil Hospital, Karachi of cases operated from June 2000 to October 2010.

Methodology: The study includes all cases of basal cell carcinoma presented at plastic surgery department in civil hospital, Karachi from June 2000 to October 2010. The data collected was analyzed according to age, sex, occupation, etiology, clinical variety, site and surgical procedure along with recurrence of BCC.

Result: According to data analyzed BCC in male was 52.83% and in female 47.17%. The age of patients ranged between 30 to 85 years, 40 to 70 years of age was found most vulnerable for basal cell carcinoma (73%). The most common site of occurrence of tumor was the nose (43.40%). The most common clinical type was the ulcerative (83.02%). The most common surgery performed for basal cell carcinoma at Plastic Surgery department in Civil Hospital was excision and grafting (50.94%). According to our data 7 out of 53 patients were admitted for second surgery due to recurrence of BCC (13.21%).

Conclusion: The clinical variety and age group of basal cell carcinoma in our patients are similar to those in literature in many aspects. The only difference was of sex and site. In our series BCC was more in females and was more on the noses of patients.

Keywords: Basal cell carcinoma, etiology, clinical variety, diagnostic procedure and recurrence.

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Introduction:

The burden of cancer increases day by day. According to cancer registry and clinical data management of Pakistan by Shaukat Khanum Memorial in the year 2008, a total of 4,182 malignancies were reported. Among the skin malignancies, Basal Cell carcinoma (BCC) was the most common of all cutaneous cancers^{1,2}. More than one out of every three new cancers are skin cancers, and the vast majorities are basal cell carcinomas. According to American cancer society, among the countries, Australia has the highest rate of basal-cell carcinoma in the world.³

BCC is the most common locally invasive malignant epithelial neoplasm of the skin found in human being. Often occur on parts of the body excessively exposed to the sun, specially the face, ears, neck, scalp, shoulders, and back. This is due to Depletion of the ozone layer which filters out ultraviolet light rays, which are important in cutaneous carcinogenesis^{4,5}. The increased outdoor recreational activities is one of the probable cause responsible for the increased incidence of BCC. It is slow-growing tumor that rarely cause metastasizes, but if left untreated, it can cause extensive local tissue destruction and may lead to death as well. It can occur at any age,

but commonly occur after age of 40 years.

This study was conducted to look at BCC, with regard to age group, sex, occupation, clinical variety, surgical procedure and recurrence of basal cell during follow up and to suggest recommendation for its prevention based on its finding

Methodology:

All those patients who were admitted and treated at Plastic Surgery Department of Civil hospital Karachi were included in the study. All these patients under went excision biopsy with safe margin of 3-5mm depending upon site. The defect was either closed primarily, skin grafted or local flap was applied. In every case specimen was sent for histopathology with marking by sutures on four margins i.e. superior, inferior, lateral and medial.

All these patients data were evaluated for age, sex, occupation, site, clinical variety and surgical procedure done.

Result:

Total numbers of 53 patients were included in this study. 28 (52.83%) were males and 25 (47.17%) were females (Figure 1). The age of patients ranged between 10 to 85 years. The higher incidence rate was above 40 years (83%) and was occasionally found below 40 years (17%). The mean value of age is 53.92%. (Table 1)

The most common site of occurrence of tumor was the nose (43.40%) and cheek was second common site of occurrence (20.75%) in our patients. (Figure 2)

Our study shows that BCC was mostly found in house wife (45.28%), followed by labor (24.53%), farmer (15.09%), unemployed (13.21%) and maid (1.89%).

The most common clinical variety seen in our patients was ulcerative (83.02%). According to independent sample test there is no significance found between sex and clinical variety, significant value was 0.68.

Excision and graft was the most common sur-

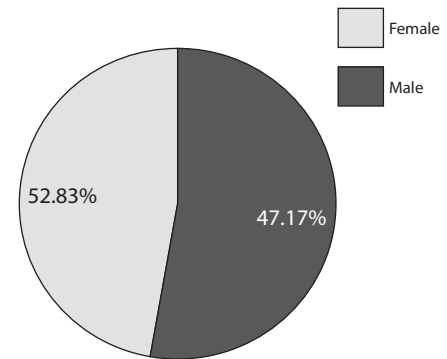


Figure 1:

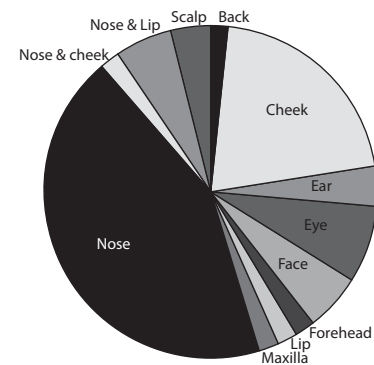


Figure 2:

Table 1:

Age Distribution	Frequency	Percentage	Cumulative Percentage
10-35	6	11.32%	11.32%
36-55	20	37.74%	49.06%
56-75	25	47.17%	96.23%
76-95	2	3.77%	100.00%

gical procedure done (50.94%), followed by excision and flap application (20.75%). Only Excision and primary closure biopsy was done in (24.53%). 7 out of 53 were readmitted due to recurrence of BCC (13.21%)

Discussion:

Basal cell carcinoma (BCC) is one of the commonest locally malignant tumors, involving the skin of head and neck. BCC originate in the pluripotential epithelial cells of the epidermis and hair follicles. It is usually found in fair complex, blue eyed patient, most commonly on face. On the face it is found above the line joining medial angle of the mouth and tragus.

The BCC is more commonly seen in male than female, according to our data male to female ra-

tio was 3:2. According to Samhar Weshah⁵ in China, the male-to-female ratio was 1:1, 1:2 in Korean⁶ and in Turkey⁷. In the United States up to 407 cases of basal-cell carcinoma per 100,000 white men and 212 cases per 100,000 white women were reported^{8,9}. In female BCC rate is low, especially in Muslim countries, because in Muslim country the women use veil or scarf, due to religious and cultural values, before she goes outdoor, which protect her from sun exposure.

As far as occupation is concerned, the incidence of BCC is high in those who work outdoor as they are exposed to excessive sunlight^{10,11}, but according to our data, the housewives have a high incidence rate of BCC (45.28%), as compared to laborer (24.53%) and farmer (15.9%). This can be due to few facts that rural women of Sindh province, though they are housewives; they work in the agricultural land along with their husband and son which might make them equally prone to BCC.

BCC is more common above the age of 40 years. It is uncommon below age 40. In our series most of the cases occur between 50 and 79 years. The average age was 62.1 year. The highest incidence was in the age group of 60 to 69 years. These findings are consistent with the data in current literature¹⁰. The most logical explanation for higher incidence in the old age appears to be that elderly individuals have a less efficient immune system and have a diminished DNA repair capacity which increases the risk of developing skin cancers including BCC¹¹.

In our series, the nose was common area to develop BCC (43.40%) similar to other series¹². Other studies shows the cheek to be the most common site to develop BCC.¹³

Other literature also suggest that BCC typically occurs in a sun-exposed area (scalp, forehead, nose, ears, and neck)⁵. According to the American Cancer Society, BCC characteristically arises in body areas exposed to the sun and is most common on the head and neck (80% of cases), followed by the trunk (15% of cases) and arms and legs². BCC have also been reported in un-

usual sites, including the maxillae, breasts, genitalia, palms, and soles.

The most common clinical variety in our series was ulcerative (83.02%) as compared to other studies where Nodular variety was more common.¹² The other clinical variants i.e. morphealike (fibrosing), the superficial spreading and the pigmented type^{15,16} were not noted in our series. This can be due to two factors, either patients are late comers or treating physicians lack the knowledge to diagnose other variants. According to American cancer society, Nodular basal-cell carcinoma is the classic form, which most often presents as a pearly papule or nodule with overlying telangiectases and a rolled border, at times exhibiting central crusting or ulceration and also known as "Rodent Ulcer"².

For any surgical procedure site and clinical variety play a vital role. In our study excision and grafting was done in 50.94% of cases, excision and flap in 20.75%, only excision & primary closure in 24.53%. Literature suggests the best treatment consists of complete excision¹⁷. Surgical approaches include curettage, electrodesiccation, cryosurgery, and Mohs micrographic surgery^{18,19}. Other than Surgery Radiotherapy²⁰ and chemotherapy was not employed in our series.

Out of 53 patients, in our study 4 patients were admitted due to recurrence (13.21%). Recurrence is mostly as a result of surgical excision without standard policy of safety margin²¹. Tumors with subclinical extension or indistinct borders are more frequently associated with residual positive margins after excision and have a higher recurrence rate than more limited or well-defined tumors. Metastasis of this disease is unusual, with rates ranging from 0.0028 percent to 0.55 percent²². Risk factors for metastasis are similar to those for recurrence. Metastases arise most commonly from primary tumors on the face and ear; most often metastasizes to the regional lymph nodes, followed by bone, lung, and liver. The prognosis for metastatic disease is very poor, with mean survival ranging from 8 months to 6 years⁵.

Conclusion:

We can conclude that there is similarity between our data and published literature with regard to age, occupation, clinical variety, surgery and recurrence, but we found differences in our data and published literature regarding sex and site. This difference opens avenues for further research.

We recommend our patient to visit dermatologist immediately if they suspect any lesion developing. We also do recommend that all person should avoid sun bathing. They also must use sunscreen or other safety measure which prevent them from continual sun exposure.

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