



SPECTRUM OF BASAL CELL CARCINOMA SPECIAL REFERENCE TO UNUSUAL SITE IN NORTH KARNATAKA REGION.

Pathology

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ABSTRACT

Basal cell carcinoma a slow growing tumour the most common skin malignancy worldwide with a predilection towards photo exposed areas especially head and neck areas. The histopathological variants of BCC are Nodular, nodulocystic, adenoid, micronodular, infiltrative, morpheaform (sclerosing), keratotic, Basosquamous (metatypical), pigmented, superficial, ulcerative and fibroepitheliomatous type. **Aim:** The present study highlights histomorphological spectrum of BCC with special emphasis on unusual sites- of BCC in a tertiary care hospital in North Karnataka region. **Materials and Methods:** A retrospective analysis of 62 cases of BCCs were included. **Result:** The age ranged from 26-90. There was female preponderance, female to male ratio 1.13:1 BCC in the present study were broadly divided into usual and unusual sites. Of the 62 cases 52 cases were seen in head and neck region, line drawn from angle of mouth to tragus of ear and 10 cases were in unusual site including inguinal region forearm, extracted tooth tissue, supraglottic, occipital region, scalp, infraorbital & perianal region. Most common clinical presentation was ulceration. Common histopathological variant was Nodular followed by pigmented, metatypical, nodulocystic, nevoid BCC syndrome (Gorlins syndrome). **Conclusion:** Histopathological evaluation is one of the most valuable means of diagnosis of BCCs, the occurrence in unusual sites must be kept in mind and can be done by correlating clinical presentation with pathological features.

KEYWORDS

INTRODUCTION :

Basal cell carcinoma (BCC), first described by Jacob in 1827¹. Basal Cell Carcinomas are common non melanotic epithelial skin tumors. BCC was believed to arise from keratinocytes. There is recent evidence that these cells are derived from immature pluripotent cells of interfollicular epidermis and those present in the outer sheath of the hair follicle^{1,2}. All BCCs, whether sporadic or syndromic, have abnormalities of Hedgehog signaling pathway. This pathway is inhibited by a PTCH1 encoded protein³. Basal Cell Carcinomas occurs most frequently on sun exposed area and seen almost exclusively on hair-bearing skin, especially on face, line drawn from angle of mouth to tragus of ear.

The clinical appearance of BCC can be fairly inconstant. They are clinically divided into five types: nodular-ulcerative, pigmented, diffuse (infiltrating and morpheaform), superficial and fibroepithelioma^{1,4}. It is locally invasive and seldom metastasis. Early diagnosis followed by surgical excision offers complete cure¹.

There is significant difference in the morphology of the BCCs, many microscopic subtypes have been described. Nodular, nodulocystic, adenoid cystic, micronodular, infiltrative, morpheaform (sclerosing), keratotic, Basosquamous (metatypical), pigmented, superficial, ulcerative, fibroepitheliomatous type etc. rare variants are pleomorphic, clear cell, signet ring cell, granular, infundibulocystic, metaplastic, BCC differentiation towards adnexal structures, BCC with matrical differentiation, keloid BCC, BCC with thickened basement membrane, Basomelanocytic tumour, BCC with neuroid type nuclear palisading². This study helps to analyse unusual sites and variants of BCC in North Karnataka region. BCC on covered site or not habitually exposed to sunlight have been considered as unusual BCC. In this study we are emphasizing on the unusual site of the BCC.

MATERIALS AND METHODS :

The present study was conducted in a tertiary care teaching hospital. A retrospective study of 62 cases received at the Department of pathology from 2000 to 2021 was done. Following parameters were analysed name, age, sex, site, histopathological features, with a special emphasis of BCC in unusual sites.

RESULTS

Out of 62 cases of BCC's, 33 were female, 29 were male, Female to

male ratio 1.13:1. Age group ranged from 21-90, oldest age 90, youngest age 26, mean age group 57.44. Of 62 cases most common site is cheek, and unusual site were as followed inguinal region, forearm, extracted tooth tissue, supraglottic, occipital region, scalp, infraorbital, perianal region.

Most of the BCCs were nodular ulcerating type on morphologically, on histopathology most common type was nodular, followed by pigmented, metatypical, nevoid bcc syndrome, nodulocystic.

Table no 1: Age & Sex distribution.

Age	No. of cases	Male	Female	Total Percentage .
21-30	3	2	1	4.8%
31-40	4	2	2	6.45%
41-50	11	5	6	17.74%
51-60	17	7	10	27.41%
61-70	17	8	9	27.41%
71-80	5	2	3	8.06%
81-90	5	3	2	8.06%
Total	62	29	33	100%

Youngest 26, oldest 90, mean age 57.44. Female to male ratio 1.13:1

Table 2 : Unusual presentation of BCC.

Site	Histopathological Variants	Number of cases
Inguinal region	Pigmented BCC	2
Punch bx multiple sites	Nevoid BCC syndrome	2
Extracted tooth tissue	Nodular	1
Supraglottic	Metatypical	1
Forearm	Adenocystic	1
Posterior Occipital region	Nodular	1
Upper back	Nodular	1
Perianal region	Metatypical	1

Table 3 Histopathological types of BCC.

Histopathological types	No of cases	percentage
Nodular	37	59.67%
Pigmented	10	16.12%

Basosquamous (Metatypical)	9	14.51%
Nodulocystic	3	4.8%
Keratotic	1	1.6%
Nevoid bcc syndrome	2	3.2%
Total	62	100%

DISCUSSION

Basal cell carcinoma arises on the sun exposed cutaneous surfaces. Only about 10% to 15% of these tumors develop on sun-protected skin. Epidemiologic data and experimental evidence indicate that ultraviolet B (UVB) radiation includes the most important risk factor.^{5,1} Other important etiological agents include radiation, radiation therapy and immunocompromised status & exposure to arsenic, coal tar, and other hydrocarbons¹.

It typically affects older individuals with predilection for sun-exposed skin including face⁶. This is in concordance to previous studies which have reported that BCCs are found to occur more commonly in older people¹. In present study most common age group was 50-70 years, mean age 57.44 which is comparable to Saldanha et al⁶ and Saraswathy Sreeram et al³ studies.

BCC is known to be more common in males, probably due to greater occupational and recreational exposure to ultraviolet light⁹. Present study shows female predominance which correlates with Saraswathy Sreeram et al³ and Roshan Mary et al¹⁰ studies.

In the present study 37 cases of nodular (Solid) type, we have encountered which is most common histological variant of BCC, which is similar to LeBoit⁴ et al and Kirkham N¹¹ et al studies.

In the present study second most commonest variant was pigmented, encountered ten cases similar results were seen in Sreeram Et Al³ studies.

The present study revealed nine cases of Metatypical variant which were similar to Crowson et al¹ and Safia Rana¹² et al studies most of them were on the head and neck region.

The present study revealed three cases of nodulocystic variant which were similar to Cameron¹³ et al studies gross appearance well-circumscribed pearly papule commonly found on the head and neck of the elderly. The present study revealed two cases of Metatypical variant which was similar to Saraswathy Sreeram³ et al studies^{3,7,9}.

Table 4 : Comparative Analysis Of Site And Histological Type .

Author	No. of cases	Age range (years)	Commonest site	Commonest histological pattern
Saraswathy Sreeram et al ³	100	28-95	Cheek	Nodular
Saldanha et al ⁶	25	50-95	Periorbital	Nodular
Malhotra et al ⁷	34	28-102	Periorbital	Nodular
Kumar et al ⁸	36	29-92	Nose	Nodular
Present study 2022	62	26-90	Cheek	Nodular

BCCs also occur, albeit less commonly, on covered or unusual locations. These include the axilla, breast, foot, groin, mouth, nail, nipple, palm, penis, scrotum, and vulva¹⁴⁻²⁰.

In the present study two cases were seen in Inguinal region which was also reported by Perry robins¹⁴ et al & Niwa et al¹⁵ studies .one case of Forearm site was seen similarly to Roberto Betti¹⁶ et al studies. one case of posterior occipital region was seen in Kuvat¹⁷ et al studies.

one case of upper back site was seen in Mehta¹⁸ et al studies . oral cavity cases ie one case of extracted tooth and one case of supraglottic was seen in Woods¹⁹ et al studies & one case of perianal region was seen in Hagen²⁰ et al studies.

In the present study two cases revealed with Nevoid basal cell carcinoma syndrome (NBCC, also known as Gorlin syndrome) is an autosomal dominant disorder with an incidence of 1 per 40,000 to 57,000 individuals. ^{11,1} similar to Crowson et al and Kirkham et al studies.

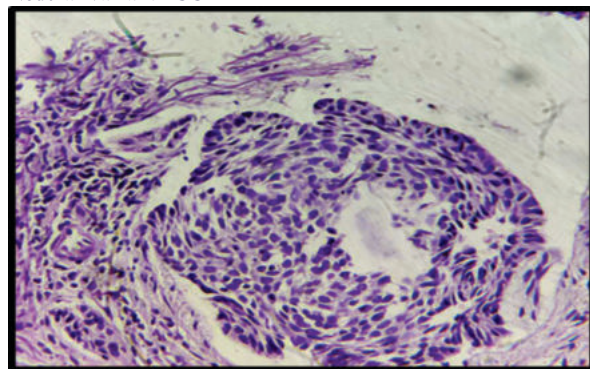
CONCLUSION

BCCs comprise a significant proportion of all skin cancer patients in the worldwide . Substantial amount of work exists in Indian literature, which is an evidence of a wide array of cases of BCC occurring in this country. The role of pathologists is irreplaceable in the diagnostic process because, in addition to giving the correct diagnosis, they also describe important morphological parameters of the tumour, some of which are of valuable prognostic significance. This study reveals the morphological spectrum of the disease in the population of North Karnataka, India with an emphasis on unusual sites.

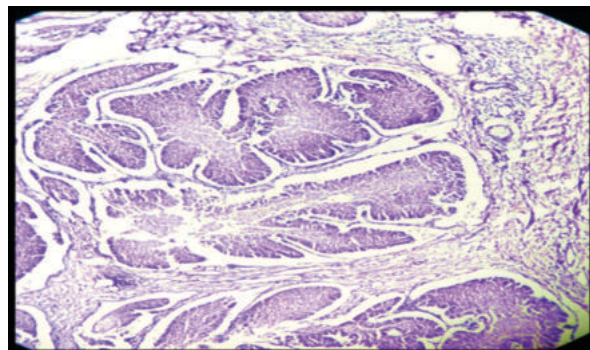
Clinical Images



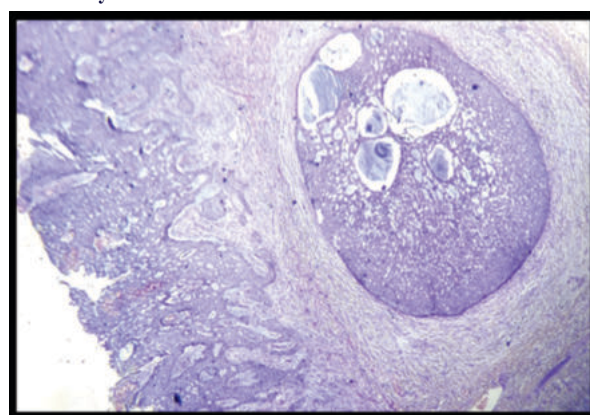
Histopathology Nodular Variant BCC



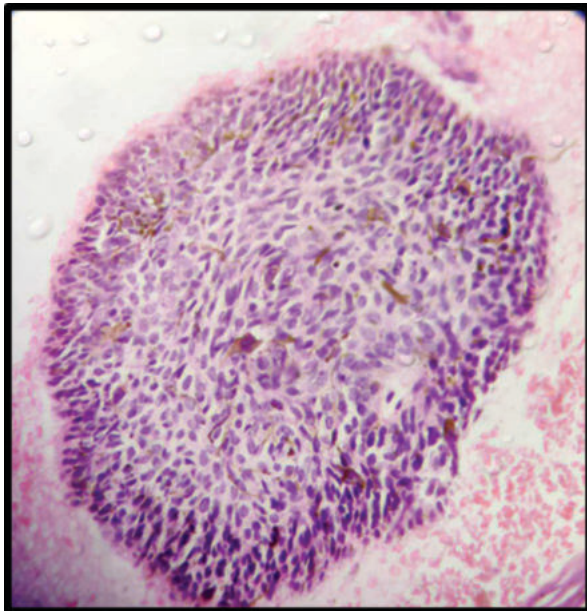
Basosquamous variant of BCC



Adenoid cystic variant of BCC



PIGMENTED



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