Correspondence

Morpheaform facial basal cell carcinoma – a 16-year experience in an Asian center

Dear Sir,

Basal cell carcinoma (BCC) is the most common skin cancer in Singapore – an equatorial region with a multiethnic Asian population. Morpheaform/sclerosing BCC (mBCC) is the most aggressive subtype that often has a subtle presentation, occurring as an inconspicuous ''scar-like'' lesion. This poses challenges in surgical excision and clearance. Although often regarded as a subset of infiltrative BCC, the morphoeic subtype is distinguished by the presence of stromal fibrosis, a distinction that remains part of the minimum dataset for histopathological reporting of skin cancers.[1] mBCCs are particularly rare in colored skin, with a lack of studies in Asian populations.

We retrospectively reviewed our experience with surgical excision of facial mBCC from 1993 to 2009. There were 1573 histological diagnoses of BCC made over this 16-year period. Thirty-seven patients had a diagnosis of aggressive BCC (infiltrative, morpheaform and micronodular subtypes), of which seven were morpheaform (Table 1). mBCC subtypes included: pure morpheaform (five) and mixed morpheaform (two). Patient demographics were determined: mean age = 58.4 years; male:female ratio = 4:3. Five of the seven patients identified were Chinese, the remaining two were Caucasian, and none was from the Malay/Indian racial groups. All cases were found on the face, the most common anatomical location was the pinna of the ear (three), followed by the cheek (two), scalp (one) and periorbital (one). Four patients had a known diagnosis of BCC: infiltrative (two), morphoeic (one), and nodular (one). All presented with single tumors, tumor size 5–60 mm. Clinical presentation: ulceration (three), surface changes of existing scar (three), and enlarging nodule (one). The mean duration to presentation was 2.1 years. Three patients had locally invasive tumors. All patients were treated with wide excision. One patient had positive margins. Method of defect closure included: flap coverage (four), split skin graft (two), and secondary closure (one) (Table 2). Four of seven patients diagnosed with mBCC at our center presented with a local recurrence at a site of previous BCC excision, of which three were formerly diagnosed as the non-morphoeic subtype (based on archived histopathological and patient records at our center). There was one case of recurrent mBCC diagnosed.

Table 1 Patient and tumor characteristics

	Age	Sex	Race	Smoking	History of Skin cancer		Location	Size	No.	Morphology	Histological subtype	Duration of lesion*	Local invasion	Metastases
					Personal	Family								
1	65	M	Chinese	Yes 50 pack-years	No	No	Left parietal scalp	50 mm	1	Ulcer	Morpheaform	5 years	Scalp bone dura, skin	No
2	72	M	Chinese	No	Yes	No	Right eye lower lid (lateral canthal angle)	10 mm	1	Scar from previous excision of BCC	Morpheaform	3 months	No	No
3	65	F	Chinese	No	No	No	Right ear pinna	60 mm	1	Ulcer	Morpheaform	6 years	Cartilage, tympanic membrane	No
4	36	F	Chinese	No	Yes	No	Left cheek	10 mm	1	Nodule over previous scar	Mixed morpheaform (nodular, morphea)	3 weeks	No	No
5	65	M	Eurasian	No	No	No	Rt ear pinna	20 mm	1	Enlarging lump	Morpheaform	3 years	No	No
6	46	F	Chinese	No	Yes	No	Left cheek	5 mm	1	Ulcerated nodule over previous scar	Morpheaform	3 months	No	No
7	60	M	Caucasian	No	Yes	No	Left ear pinna and preauricular region	25 mm	1	Ulcer	Mixed morpheaform (basosquamous, morphea)	2 months	Left external auditory canal, left petrous temporal bone, temporal-mandibular joint, parotid gland, left stylomastoid foramen	No

*Reference to time point after the first diagnosis of morpheaform basal cell carcinoma.

Table 2 Treatment and clinical outcome

	Pre-op diagnosis by biopsy	Treatment modality	Positive margins	Re-excisions		PS/FS	Recurrence Y = year	New skin cancers	Complications		Length of follow-up
				Intraop	Postop				Treatment-related	Tumor-related	
1	No	WE & transposition flap Wide excision & rotation flap Excision of scalp sinus, debridement of osteomyelitis	No	Nil	3	PS	Y0 Y1	No	Scalp sinus	Osteomyelitis of the cranium	14 years
2	Yes	WE & postauricular SSG	Yes	Nil	Nil (patient refused further surgery)	PS	Nil	No	NA	Blepharitis	1 year
3	No	WE & mastoidectomy Trapezius flap	No	Nil	Nil	PS	Nil	No	Nil	Nil	6 weeks
4	No	WE & nasolabial flap WE & SSG WE & right radial forearm flap	No	Nil	2	PS	Y4 Y5	No	Nil	Nil	5 years
5	No	WE & SSG	No	Nil	Nil	PS	NA	No	Nil	Nil	Nil
6	No	WE & closure	No	Nil	Nil	PS	Y2	No	Nil	Nil	7 years
7	No	WE & free rectus muscle flap Facial nerve graft	No	Nil	Nil	FS	Y2 Y3 Y4 Y5	No	Nil	Ear block Ear discharge Facial nerve	8 years

FS, frozen section; PS, permanent section; SSG, split skin graft; WE, wide excision.

This study highlights the rarity of mBCC in Asians, forming 0.004% of all histological diagnoses of BCC in Singapore, and 0.19% of the aggressive subtypes, compared with Caucasian data – mBCCs account for 6.8–21.8% of all BCCs.[2,3] The mean age of 58.4 years represents a possible younger age of onset.[4] Albeit a small case series, a possibly less aggressive course of this unique subtype in colored skin is suggested. Interestingly, 42% (3/7) of mBCC arose from previous sites of excised non-morphoeic BCC, corroborating a previous postulation that the morphoeic growth pattern likely supervenes on non-morphoeic BCC as a consequence of host response over time or with increasing age.[2]

Its unique demographic, histopathological and molecular features (alpha versus beta 6-dependent transforming growth factor-beta1 activation has been postulated to induce the infiltrative growth pattern and fibrotic stroma characteristic of mBCC)[5] warrant further study of the morphoeic subtype as a distinct subtype with a possible different pathophysiology.

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