Basal Cell Carcinoma: Clinical-pathological Entities

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Introduction

• Introduction (histopathological classification)
• Clinical-pathological entities
• Prognosis factors
• Pathological report in the 21\textsuperscript{st} Century
• Nests of basaloid cells
• Continuity with the epidermis
• Peripheral palisading of nuclei

Basal Cell Carcinoma (BCC)
• Nests of basaloid cells
• Continuity with the epidermis
• Peripheral palisading of nuclei
• Stromal reaction
  – Artefactual clefting around tumour islands
  – Proliferation of fibroblasts and thin collagen fibres
• Solar elastosis
• Inflammatory infiltrate
CLINICAL TYPES
• Nodular BCC
• Superficial BCC
• Sclerosing or morpheaform BCC
• Fibroepithelial BCC (of Pinkus)
• May be pigmented and/or ulcerated

PATHOLOGICAL TYPES?
• 66 pathological variants
  – Growth pattern
  – Histological differentiation
• 1990 (Sexton)
  – Growth pattern
  – 5 main types
• Ideal classification?

• Ideal histopathological classification of BCC should
  – be based on subtypes that correlate with clinical behaviour and treatment requirements
  – easy to use
  – reproducible, with little inter-observer variations
• No universally agreed classification exists to date.

• Rippey JJ. Why classify basal cell carcinoma? Histopathology 1998;32: 393-8
• 2014, Fraga studied concordance rates in the subtyping of BCC, among different dermatopathologists
• Good concordance for superficial, nodular, fibroepithelial BCC (best concordance)
• Poor concordance for the other types → infiltrating type (micronodular, trabecular, sclerosing)
• 4 types: still to be validated

Basal Cell Carcinoma

Clinical-pathological entities
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PATHOLOGICAL TYPES
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• Superficial BCC
• Sclerosing or morpheaform BCC
• Fibroepithelial BCC
• Infiltrating BCC
• Metatypical BCC

BCC : clinical-pathological Entities
1. Nodular BCC

- Most frequent (> 50%)
- Head and neck (Face)
- Shiny, pearly papule or nodule, smooth surface and arborizing telangiectasias
Nodular BCC

- enlarge and ulcerate
- Elevated pearly border
- Melanin pigmentation (darker phototype)
Nodular BCC?

Ulcerated Nodular BCC

Ulcus rodens
• Tumour nests vary in size but are predominantly large.
• Peripheral palisade and surrounding clefts are present
• Nests → rather circumscribed nodule within the dermis
• Central ulceration may occur
2. Superficial BCC

- 10-15% of BCC
- Trunk > limbs
- Well circumscribed, erythematous macule/patch, few mm → several cm
- Focal scales and/or crusts
• Thin rolled border
• Melanin pigmentation
• Spontaneous regression (atrophy, hypopigmentation)
• Multiple lesions
• Multiple small buds attached at intervals to the epidermis
• Restricted to the superficial dermis
• Amenable to topical treatments
Superficial BCC

- Palisading and clefs are present
- Melanic pigmentation
- ![Warning symbol] lobules can be distant from one another → microscopic margin evaluation may be wrong
3. Sclerosing BCC

- < 5% of BCC
- Slightly elevated to depressed area of induration
- Light pink to white colour
Sclerosing BCC

- Resembles a scar or a morphea plaque
- Smooth surface
- Crusts and telangiectasias
- Poorly defined clinical margins
• Small irregular infiltrating islands and cords of cells, often parallel to the skin surface
• Dense stromal fibrosis
4. Fibroepithelial BCC

- Fibroepithelioma of Pinkus
- Rare < 1%
- Trunk (lower back)
- Skin-coloured or pink, sessile plaque or pedonculated papulonodule
- Smooth surface

Coll. M. Trakatelli
• Thin anastomosing strands and cords that projects downwards from the epidermis
• Fenestrated pattern
• Fibrous stroma
5. Infiltrating BCC

- Indistinct clinical margins
- Inadequate primary excisions
- Frequent recurrences

- Infiltrating BCC encompasses
  - Micro-nodular BCC
  - Trabecular BCC
  - (Sclerosing BCC)
• Nests are of varying size and outline
  – Larger nests centrally and superficially located
  – Micronodular (< 0.15 mm) or trabecular aspect at the periphery

• Infiltration between collagen bundles

• No palisade, nor clefting
Infiltrating BCC (micronodular)

Poorly circumscribed

Perineural infiltration
Infiltrating BCC (trabecular)
Infiltrating BCC?
6. Metatypical BCC

- No clinical features that allow to make clinical diagnosis
- Biological behaviour more like SCC than BCC
- More likely to recur and metastasize (9.7%)
Metatypical BCC

BCC with squamous cell carcinoma differentiation or transition
• Mixed types are not rare (Sexton’s pathological study: 38.5% of 1039 BCC)

• Overall accuracy of punch biopsy for establishing BCC subtype was 69%

Wolberink EA et al. Hight discordance between punch biopsy and excision in establishing basal cell carcinoma subtype: analysis of 500 cases. JEADV 2013;27:985-9
Prognosis Factors in BCC

- Mainly linked to local recurrence rates
- Metastasis: rare in BCC (0.05%), large, ulcerated, neglected lesions
Clinical factors: tumour size and location
Nose, periorificial areas of the face = *high-risk zones*

Pathological factors:
- Ulceration, number of mitosis, degree of differentiation, etc.: not relevant for BCC
- Infiltrating and metatypical types of BCC, perineural invasion, margins

Failure of previous treatment(s)
Immunosuppression

• Pathological report: “BCC” is not enough
• Pathological sub-types should be mentioned (Which one? ....to be followed)
• Margins should be specified (in mm), but can be falsely evaluated in
  – Superficial BCC: superficial lobules are distant from one another
  – Infiltrating types of BCC
  – Perineural invasion (1%)
