Iris Zalaudek
Head of the Dermatology Clinic
University of Trieste
Italy

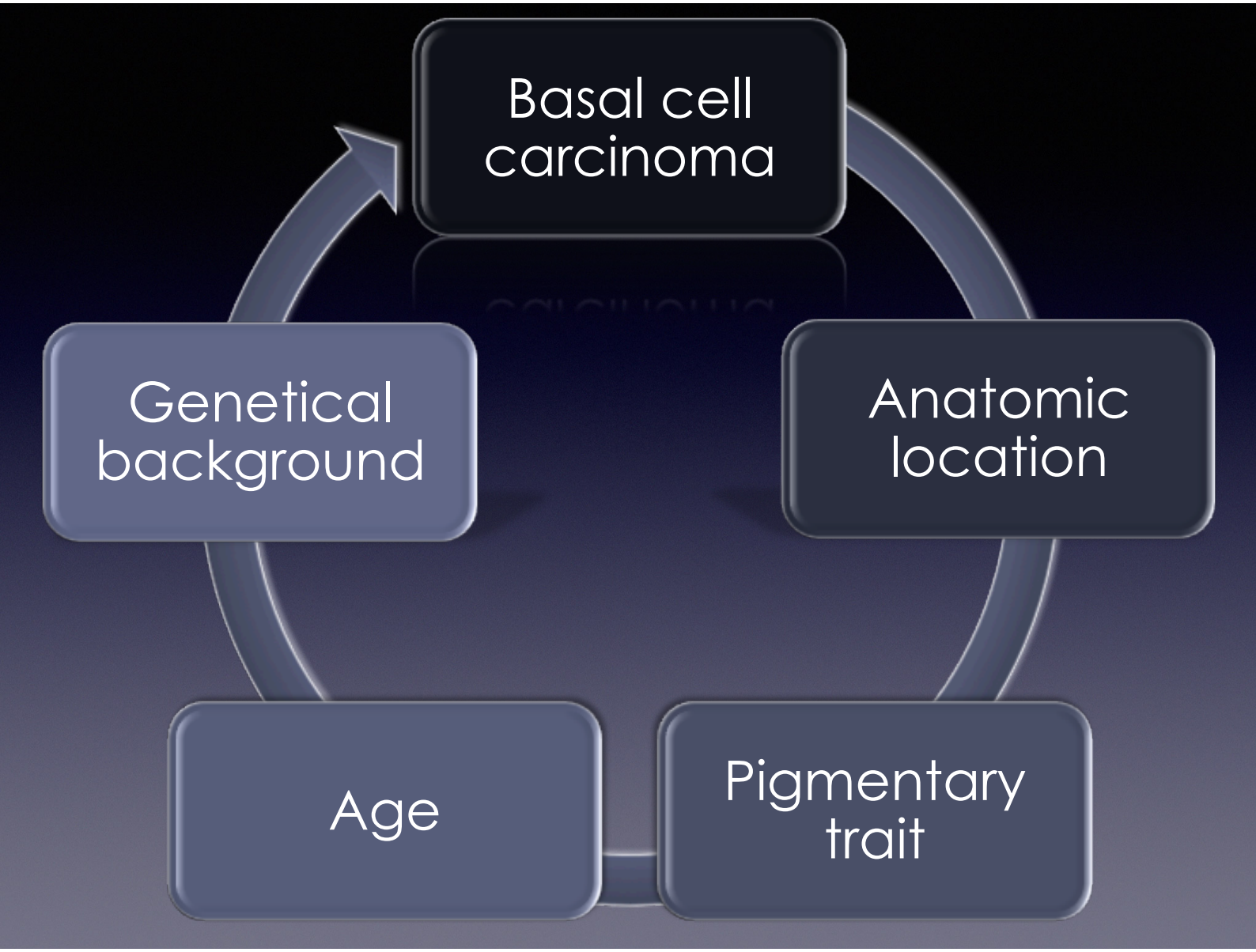
Treatment of basal cell carcinoma

and factors influencing the treatment choice

Treatment options for basal cell carcinoma

Topical Surgery Radiation Systemic

Different types of basal cell carcinoma do exist with respect to their epidemiology, morphology and growth patterns


Basal cell carcinoma
Anatomic location
Pigmentary trait
Age
Genetical background

Age, sex and body-site related differences between different basal cell subtypes

Superficial basal cell carcinoma	Nodular basal cell carcinoma
younger individuals (57.5 years) and women	older individuals (65.5 years) and men
trunk in men lower extremities in women	ears in men eyelid, lips and neck in women

Bastiaens MT et al. J Invest Dermatol 1998

Topical treatment options

just indicated for superficial basal cell carcinoma

Table 2. Treatment modalities of basal cell carcinoma.

Treatment	Description	Response (%)	Recurrence (%)	Side effects	Ref.
Topical imiquimod		79–90	8–21	Erythema Burning sensation Erosions Ulcerations	[105–107]
Photodynamic therapy	ALA-PDT MAL-PDT	67–98	5–25	Pain Photosensitivity Edema	[101,108,109]

ALA: Aminolevulenic acid; MAL: Methyl aminolevulinate; PDT: Photodynamic therapy; RT: Radiotherapy.

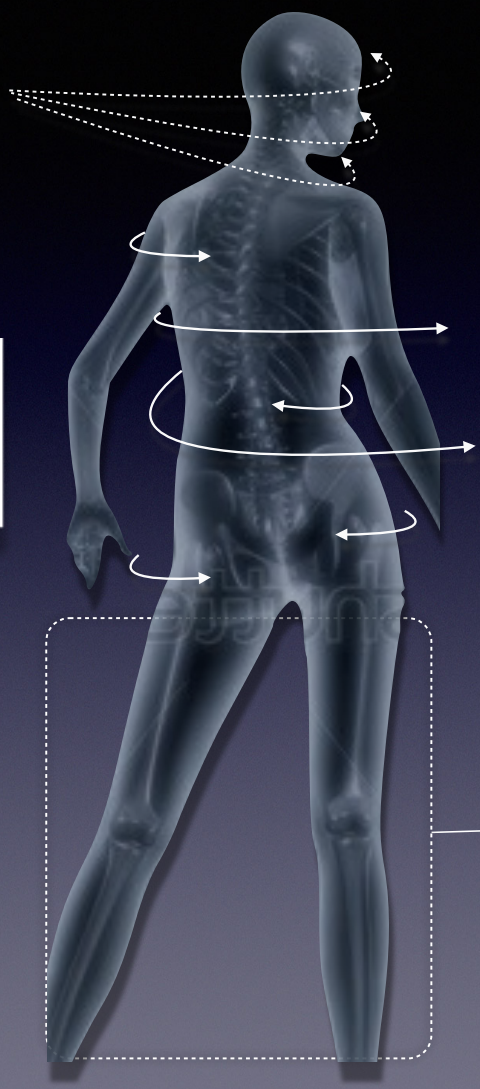
Presence of blue-gray globules or arborizing vessels are significant negative predictors for superficial basal cell carcinoma

Lallas A et al. Accuracy of dermoscopic criteria for discriminating superficial from other subtypes of basal cell carcinoma. J Am Acad Dermatol (in press)

Excisional Surgery

with 3 mm+ margins is 1st line therapy for all,
but superficial basal cell carcinoma but…

nodular = 70.2%
others = 26.8%
superficial = 3.0%



nodular = 44.5%
superficial = 46.4%
other = 9.1%

nodular = 38.5%
superficial = 37.6%
other = 23.9%

High risk features of **basal cell carcinoma**

Subtype: basosquamous, multifocal, infiltrating, sclerosing
Localization: H-Zones of the face
Diameter: > 10 mm for others

Bastiaens MT et al. J Invest Dermatol 1998
Scrivener Y et al. Br J Dermatol 2002
Betti R et al. Dermatol Surg 2009
Lallas A et al. Br J Dermatol 2013

Conventional Surgery

4 mm safety margins for non-risk subtypes on non-facial sites (cure 95%)

Recurrence rate for 1 vs. 2 vs. 3 mm margins on the face: 16 vs. 24 vs. 13% for H-zones of the face

incomplete excision (margins involved): about 30% of recurrence

Lewin Jm et al. Advances in the management of basal cell carcinoma.
F1000Prime Rep. 2015

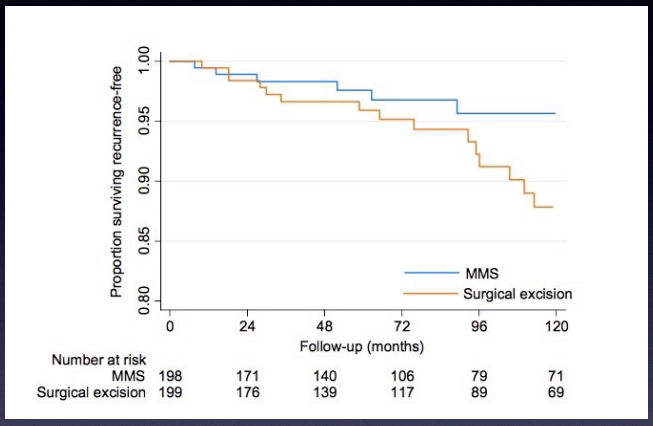
Conventional vs. Mohs surgery for facial basal cell carcinoma

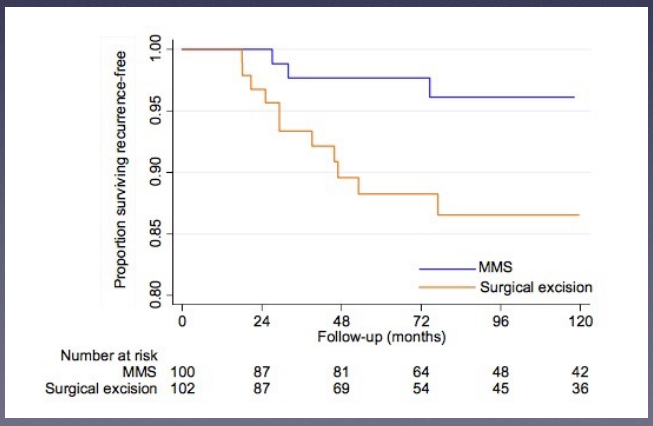
10 years cumulative probability of recurrence of primary basal cell carcinoma: 12.2 vs. 4.4%

10 years cumulative probability of recurrence of recurrent basal cell carcinoma: 13.5 vs 3.9%

high rate of recurrence of primary basal cell carcinomas on H-Zone (>50% within first 5 years)

long term follow up after surgery

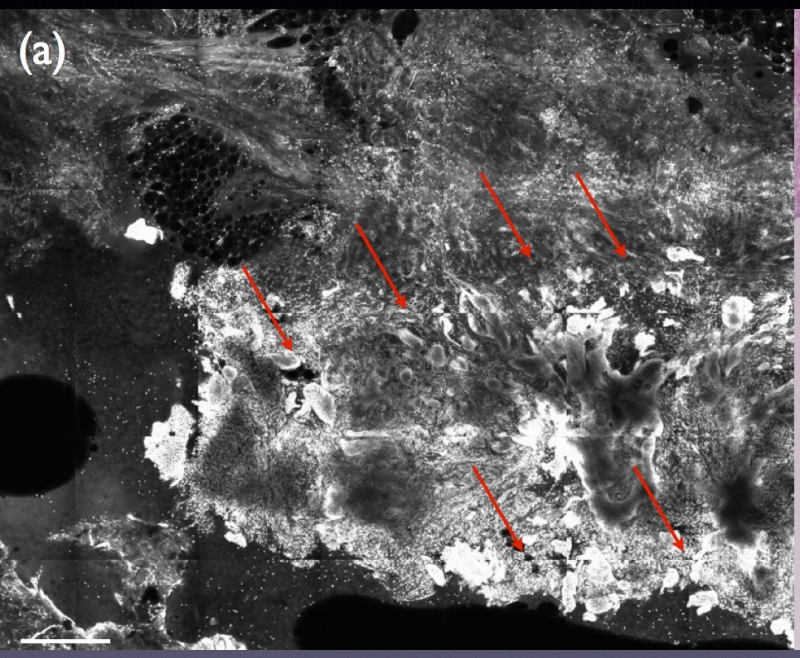


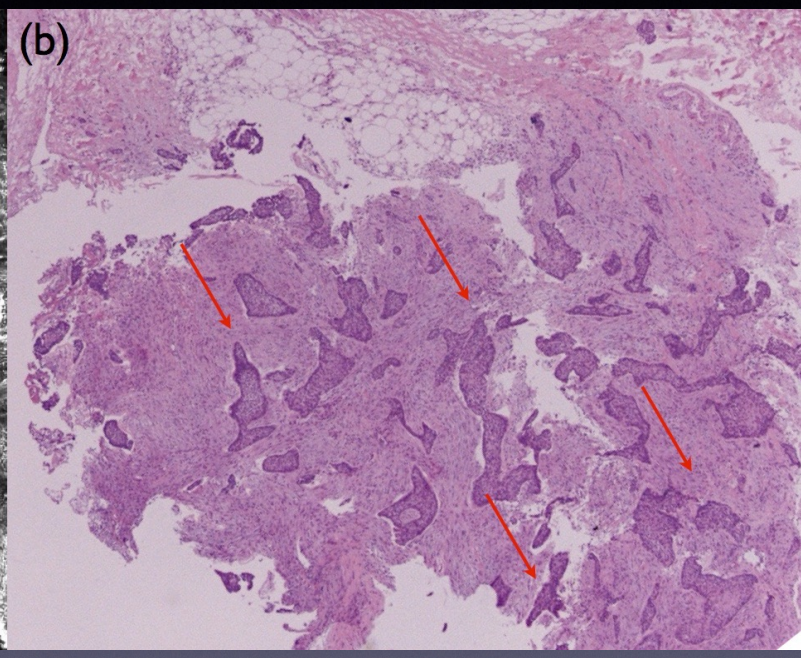


von Loo et al. Surgical excision versus Mohs microscopic surgery for basal cell carcinoma on the face: a randomized clinical trial with 10 years follow up Eur J Cancer 2014.

a promising new technique for intra-operative margin control

ex vivo confocal microscopy





diagnostic sensitivity and specificity = 88% and 99%
time saving (2/3 of time reduced)
no tissue loss

Bennàssar et al. Br J Dermatol 2014

Longo C et al. Br J Dermatol 2014

high recurrence rate of high risk basal cell carcinomas!!!

Use of radiotherapy

response rate between 70-100%

factors associated with recurrence: advanced age, tumor size > 2 cm, immunosuppression, use of photons vs. electrons

limited number of high quality prospective studies with sufficient long term follow up

good cosmetic outcome and local tumor control

Coh M et al. Utility of radiotherapy in the treatment of basal cell carcinoma: a review. Br J Dermatol 2014.
Kahn L et al. Predictors of recurrence after radiotherapy for non-melanoma skin cancer. Current Oncol 2014.

drawbacks

no indication for genetical syndromes

Recurrence vs. radiodermatitis

second malignancies (angiosarcoma)

Indications for systemic treatment

metastatic or locally advanced basal cell carcinoma, for which surgery or radiotherapy is not feasible but…

Hedgehog Signal Inhibitors

- Vismodegib (Erivedge 150mg) and Sonidegib (Odomzo 200mg)
- locally advanced and metastatic basal cell carcinoma
- 1 tablet/day
- Response rates up to 70%
  - 51.8% partial remission
  - 48.1% complete remission

Drawback - Adverse effects

- dysgeusie, ageusia, muscle spasm. weight loss, fatigue, increased liver enzymes, dehydration, dyspepsie, abdomanial pain, hair loss, **secondary cancers (squamous cell carcinoma)**
- poor adherence and compliance

Sekulic A et al. New Engl J Med 2012
Midgen MR et al. Lancet Oncol 2015
Silapunt S et al. Ther Adv Med Oncol 2016

Strategies

to improve therapy adherence and outcome…

dose reduction

treatment holidays

neodajuvant setting

Letter to the Editor

Fast growing melanoma following treatment with vismodegib for locally advanced basal cell carcinomas: report of two cases

Roberta Giuffrida [a,1], Karl Kashofer [b,1], Emi Dika [c], Annalisa Patrizi [c], Carlotta Baraldi [c], Nicola Di Meo [d], Iris Zalaudek [d,*]

Conclusion

Although surgery with margin control should be 1st line options in the treatment of basal cell carcinoma, these methods are often limited due to tumor location, tumor number and patients co-morbidities

Radiotherapy achieves good response rates and cosmetic outcome but sufficient long term studies are missing

Topical treatments represent 2nd line therapies but may be helpful in selected patients groups

Combined treatments are often “standard” in clinical practice but up to date prospective trials are rare

Novel targeted and immuno-therapies may improve the outcome of patients with locally advanced basal cell carcinoma