Malignant melanoma

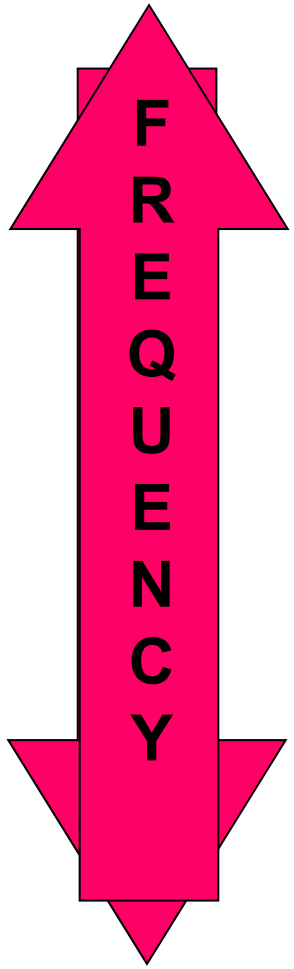
and other pigmented lesions

eea grants
iceland liechtenstein norway
norway grants

Diseases

Basal Cell Cancer (BCC)
= cc. basocellulare

Squamous Cell Cancer (SCC)
= cc. spinocellulare



MM Epidemiology

1935 – 1:500
1961 – 1:600
1980 – 1:150
1992 – 1:105
1996 – 1:88
2000 – 1:75

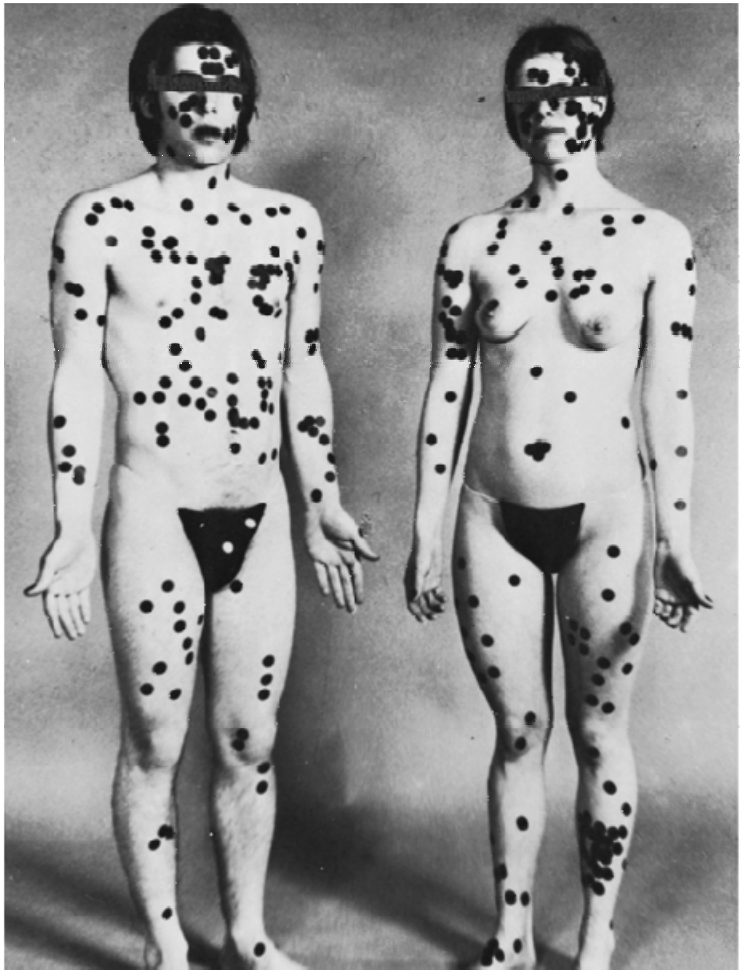
prediction: 2010 – 1:50

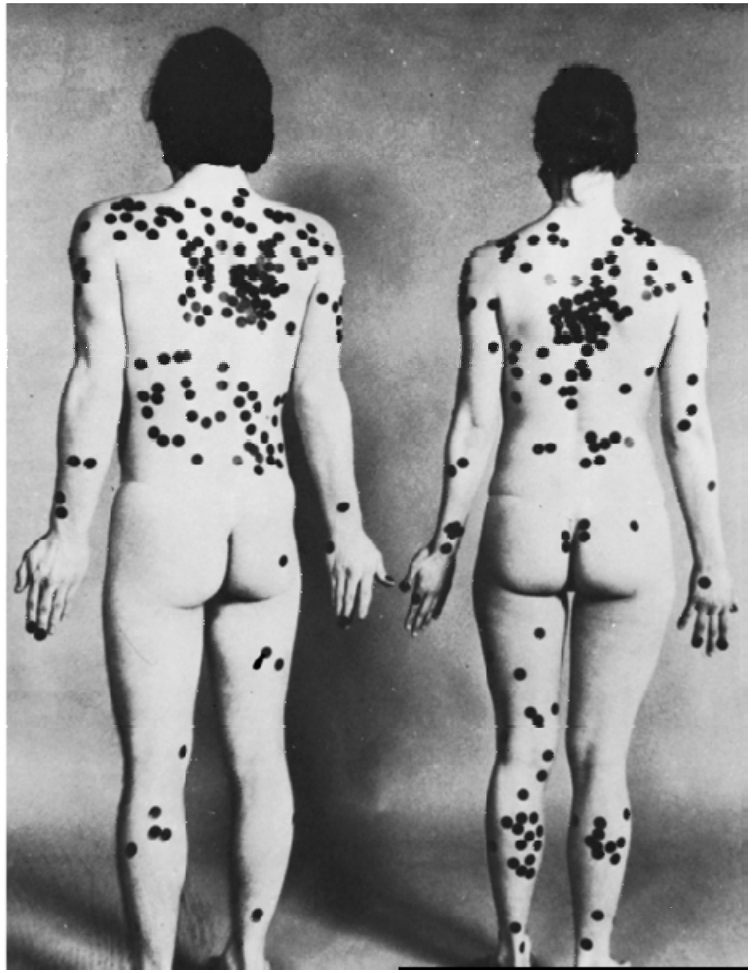
1300 deaths annually in Hungary, ranks 12th

Risk factors

- Pigmentary characteristics
  - Blue eyes
  - Blond, fair, or red hair
  - Light complexion
- Response to sun exposure
  - Freckling tendency
  - Inability to tan
  - Tendency to sunburn
- Upper socioeconomic status
- Family history of melanoma
- *p16* mutation; *BRAF* mutation
- Nevi
  - Melanocytic nevi
  - Dysplastic nevi
  - Changing mole
  - Congenital nevus
- History of prior melanoma
- Immunosuppression

Distribution





Cutanous melanoma classification

i. Superficial Spreading Melanoma **SSM**

ii. Nodular Melanoma **NM**

iii. Acral Lentiginous Melanoma **ALM**

iv. Lentigo Maligna Melanoma **LMM**

Rare melanoma forms

Mucous membrane melanoma

Amelanotic melanoma

Uveal melanoma

Cutaneous melanoma classification

i. Superficial Spreading Melanoma SSM

ii. Nodular Melanoma NM

iii. Acral Lentiginous Melanoma ALM

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SSM

SSM

Cutaneous melanoma classification

i. Superficial Spreading Melanoma SSM

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Nodular Melanoma

Cutaneous melanoma classification

i. Superficial Spreading Melanoma SSM

ii. Nodular Melanoma NM

iii. Acral Lentiginous Melanoma ALM

iv. Lentigo Maligna Melanoma LMM

ALM

ALM

Cutanous melanoma classification

i. Superficial Spreading Melanoma SSM

ii. Nodular Melanoma NM

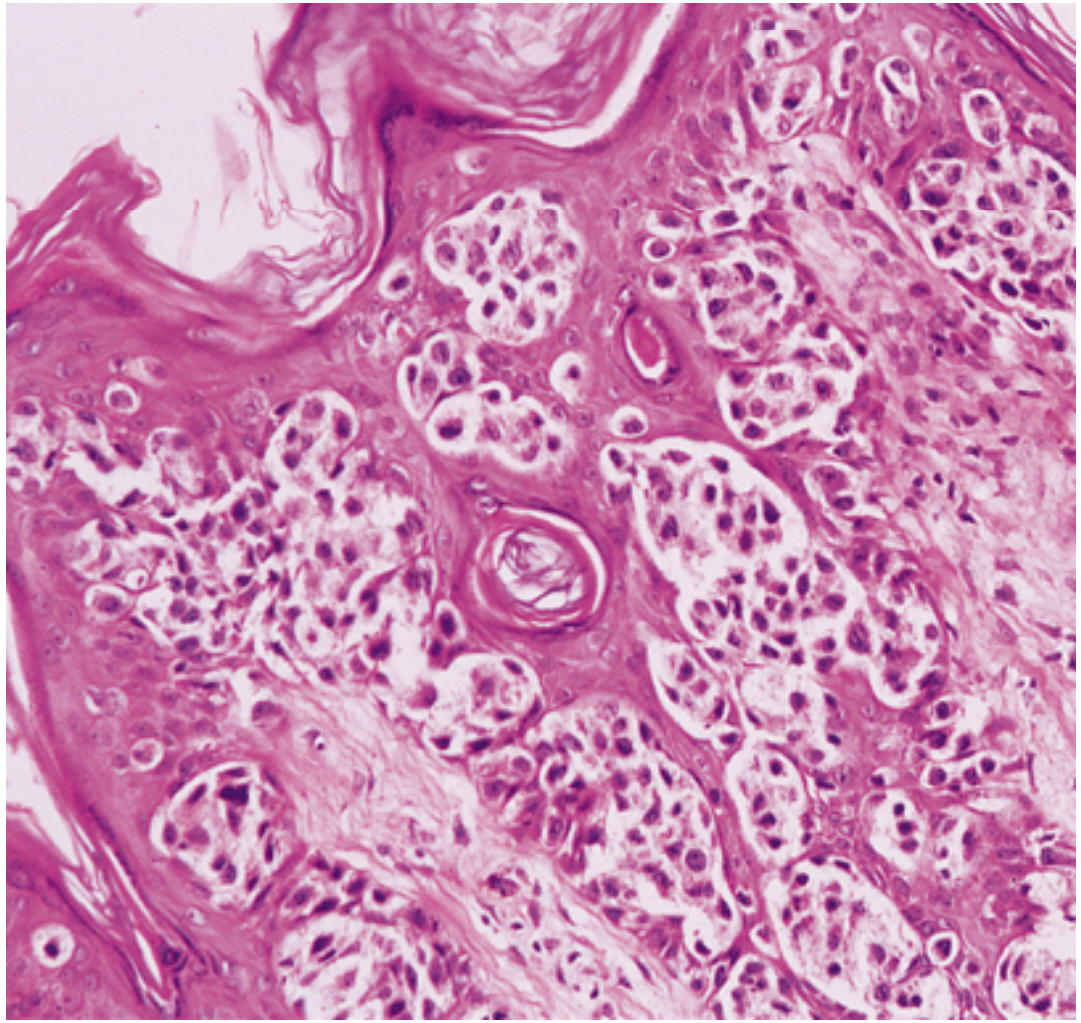
iii. Acral Lentiginous Melanoma ALM

iv. Lentigo Maligna Melanoma LMM

LMM

LMM

Histopathology



Rare melanoma forms

Mucous membrane melanoma

Amelanotic melanoma

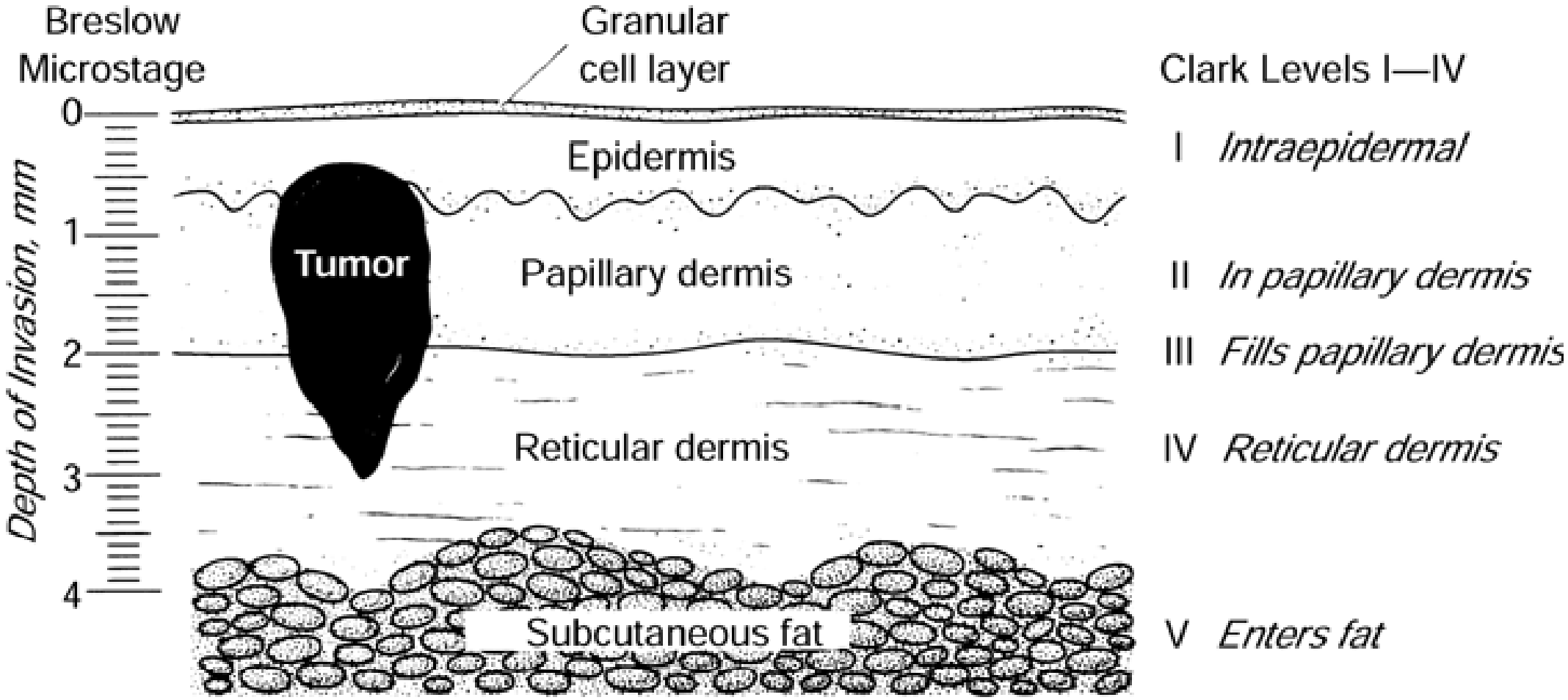
Uveal melanoma

Melanoma malignum – partially amelanotic

Melanoma malignum – amelanotic

Melanoma malignum – mucous membrane

Breslow scale

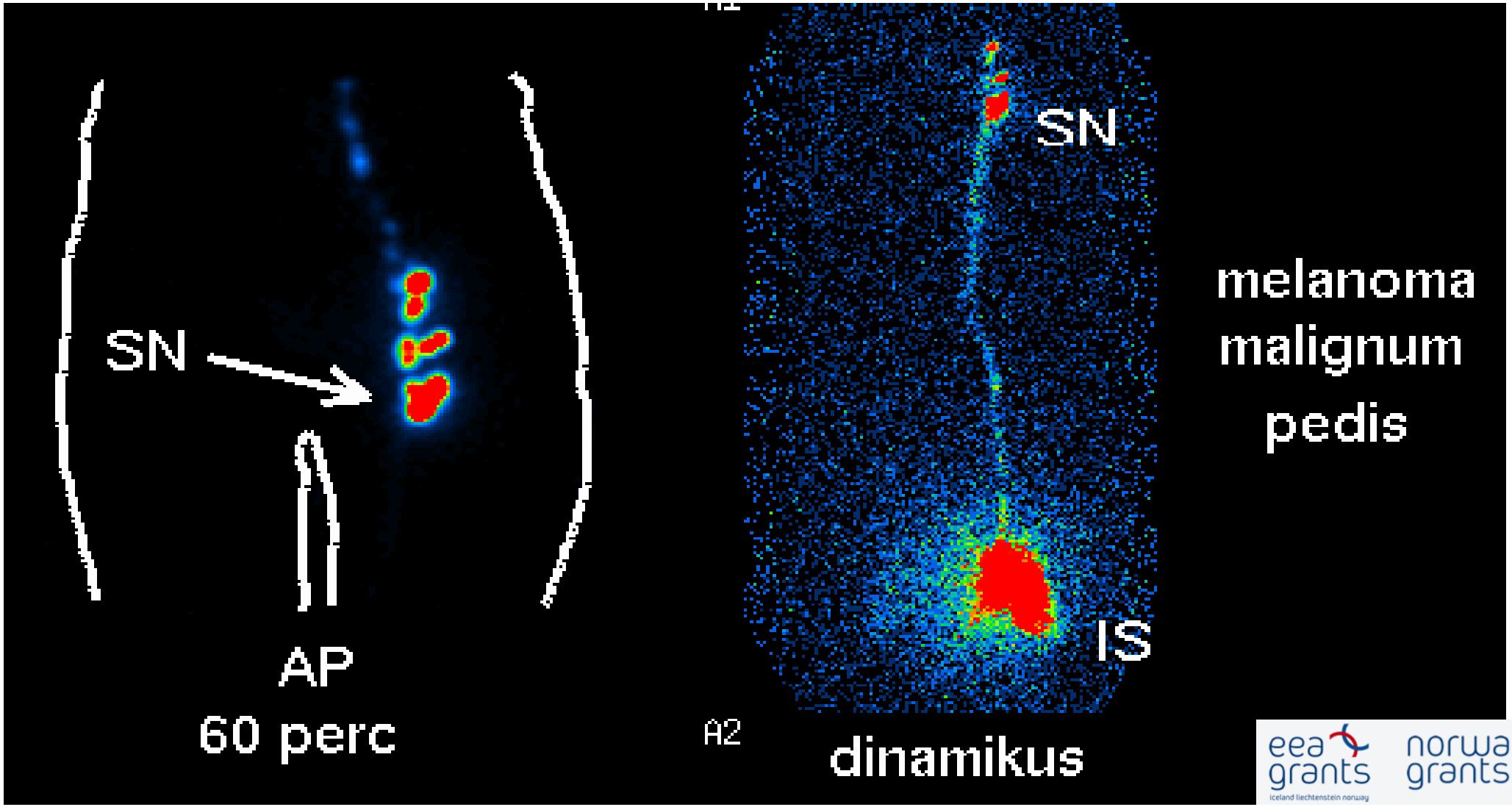


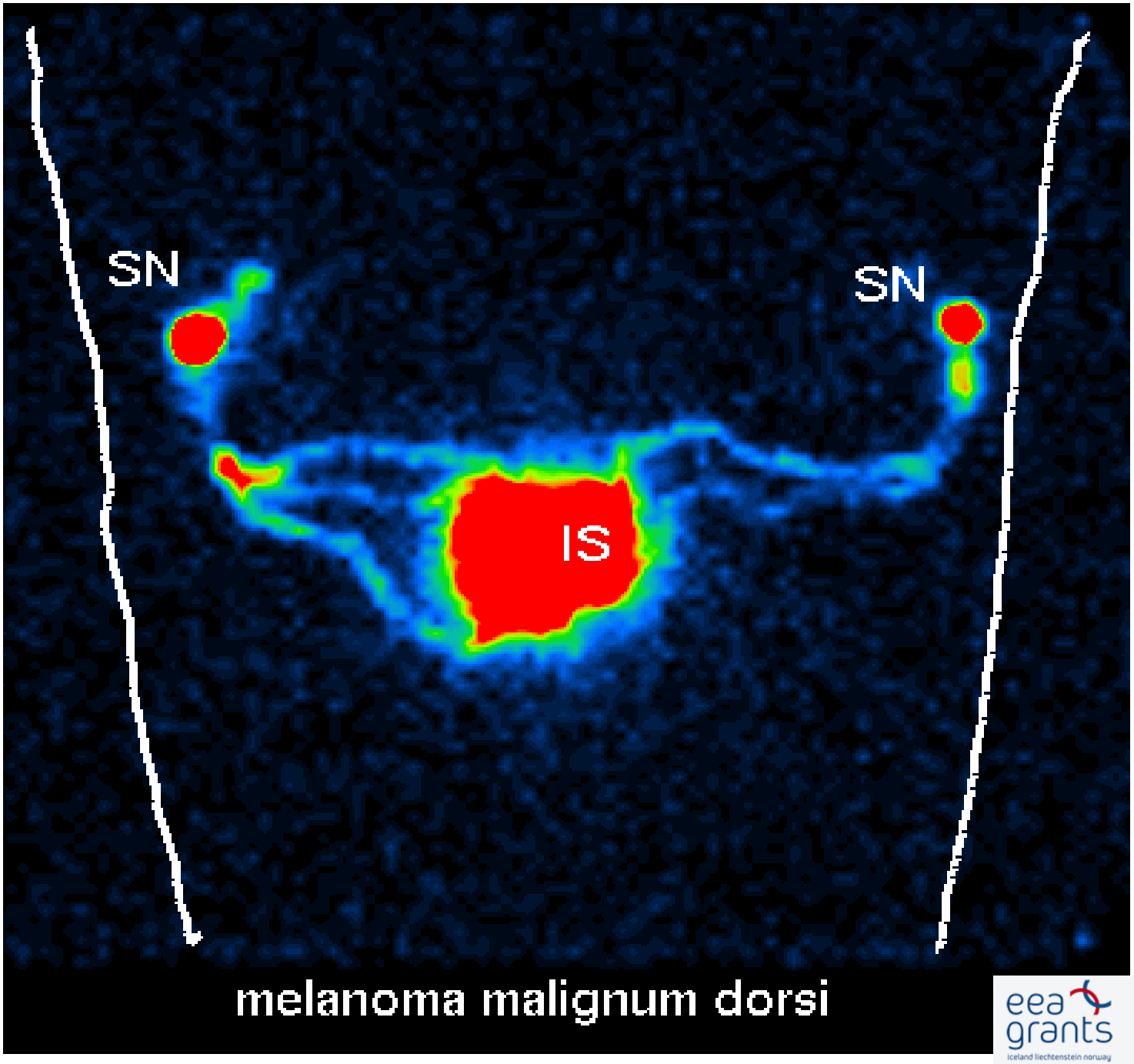
Sentinel node biopsy

Risk assessment – block dissection or Wait-and-See

Micrometastases

HMB-45 and S-100 immunohistochemistry staining


SN
AP
60 perc
A2
SN
IS
dinamikus
melanoma
malignum
pedis


SN
SN
IS
melanoma malignum dorsi

TNM

ELSEVIER

Current Melanoma Staging

ANASTASIA PETRO, MD
JENNIFER SCHWARTZ, MD
TIMOTHY JOHNSON, MD

Abstract. *American Joint Committee on Cancer (AJCC), TNM staging, represents the cornerstone of management for cutaneous melanoma. This staging system groups patients with similar prognoses and has important implications in optimizing management and treatment and conducting better clinical trials. T describes the extent of the primary tumor, N the extent of regional lymph node metastases, and M the extent of distant metastases. The AJCC staging system for cutaneous melanoma underwent significant revision in 2002. The revised, current AJCC staging system and the TNM classification are detailed in this review.*

Petro et al. Clinics in Dermatology 2004; 22:223–227

T

N

M

T Classification	Thickness (mm)	Ulceration Status
T1	≤1.0	a: without ulceration and level II/III b: with ulceration or level IV/V T2
T2	1.01–2.0	a: without ulceration b: with ulceration
T3	2.01–4.0	a: without ulceration b: with ulceration
T4	>4.0	a: without ulceration b: with ulceration

N Classification	No. of Metastatic Nodes	Nodal Metastatic Mass
N1	1	a: micrometastasis[†] b: macrometastasis[‡]
N2	2–3	a: micrometastasis[†] b: macrometastasis[‡] c: in-transit met(s)/satellite(s) without metastatic nodes
N3	4 or more metastatic nodes, or matted nodes, or in-transit met(s)/satellite(s) with metastatic node(s)	

M Classification	Site	Serum Lactate Dehydrogenase
M1a	Distant skin, subcutaneous, or nodal metastases	Normal
M1b	Lung metastases	Normal
M1c	All other visceral metastases	Normal
	Any distant metastasis	Elevated

Therapy - primary tumor

Surgical excision – up to 2 cm safety margin

Palliative surgical or radiotherapy

Adjuvant therapy

Interferon alpha2a s.c.

two major alternatives:

high-dose 9 MU 3 times a week

or

low-dose: 3-5 MU 3 times a week

Chemotherapy

DTIC 1000mg/m^2 single i.v. monotherapy

or

250 mg/m^2 for 5 days i.v.

other options:

BOLD, cisplatin

Table 2. Survival rates for melanoma TNM and staging categories

Stage	TNM	Thickness	Ulceration	No. + Nodes	Nodal Size	Distant Mets	No. of Pts.	Survival 1-Year	Survival 2-Year	Survival 5-Year	Survival 10-Year
IA	T1a	≤ 1	No	0	-	-	4,510	99.7	99.0	95.3	87.9
IB	T1b	≤ 1	Yes or level IV,V	0	-	-	1,380	99.8	98.7	90.9	83.1
	T2a	1.01-2.0	No	0	-	-	3,285	99.5	97.3	89.0	79.2
IIA	T2b	1.01-2.0	Yes	0	-	-	958	98.2	92.9	77.4	64.4
	T3a	2.01-4.0	No	0	-	-	1,717	98.7	94.3	78.7	63.8
IIB	T3b	2.01-4.0	Yes	0	-	-	1,523	95.1	84.8	63.0	50.8
	T4a	> 4.0	No	0	-	-	563	94.8	88.6	67.4	53.9
IIC	T4b	> 4.0	Yes	0	-	-	978	89.9	70.7	45.1	32.3
IIIA	N1a	Any	No	1	Micro	-	252	95.9	88.0	69.5	63.0
	N2a	Any	No	2-3	Micro	-	130	93.0	82.7	63.3	59.6
IIIB	N1a	Any	Yes	1	Micro	-	217	93.3	75.0	52.8	37.8
	N2a	Any	Yes	2-3	Micro	-	111	92.0	81.0	49.6	35.9
	N1b	Any	No	1	Macro	-	122	88.5	78.5	59.0	47.7
	N2b	Any	No	2-3	Macro	-	93	76.8	65.6	46.3	39.2
IIIC	N1b	Any	Yes	1	Macro	-	98	77.9	54.2	29.0	24.4
	N2b	Any	Yes	2-3	Macro	-	109	74.3	44.1	24.0	15.0
	N3	Any	Any	4	Micro/ Macro	-	396	71.0	49.8	26.7	18.4
IV	M1a	Any	Any	Any	Any	Skin, SQ	179	59.3	36.7	18.8	15.7
	M1b	Any	Any	Any	Any	Lung	186	57.0	23.1	6.7	2.5
	M1c	Any	Any	Any	Any	Other viscera	793	40.6	23.6	9.5	6.0
Total							**17,600**				

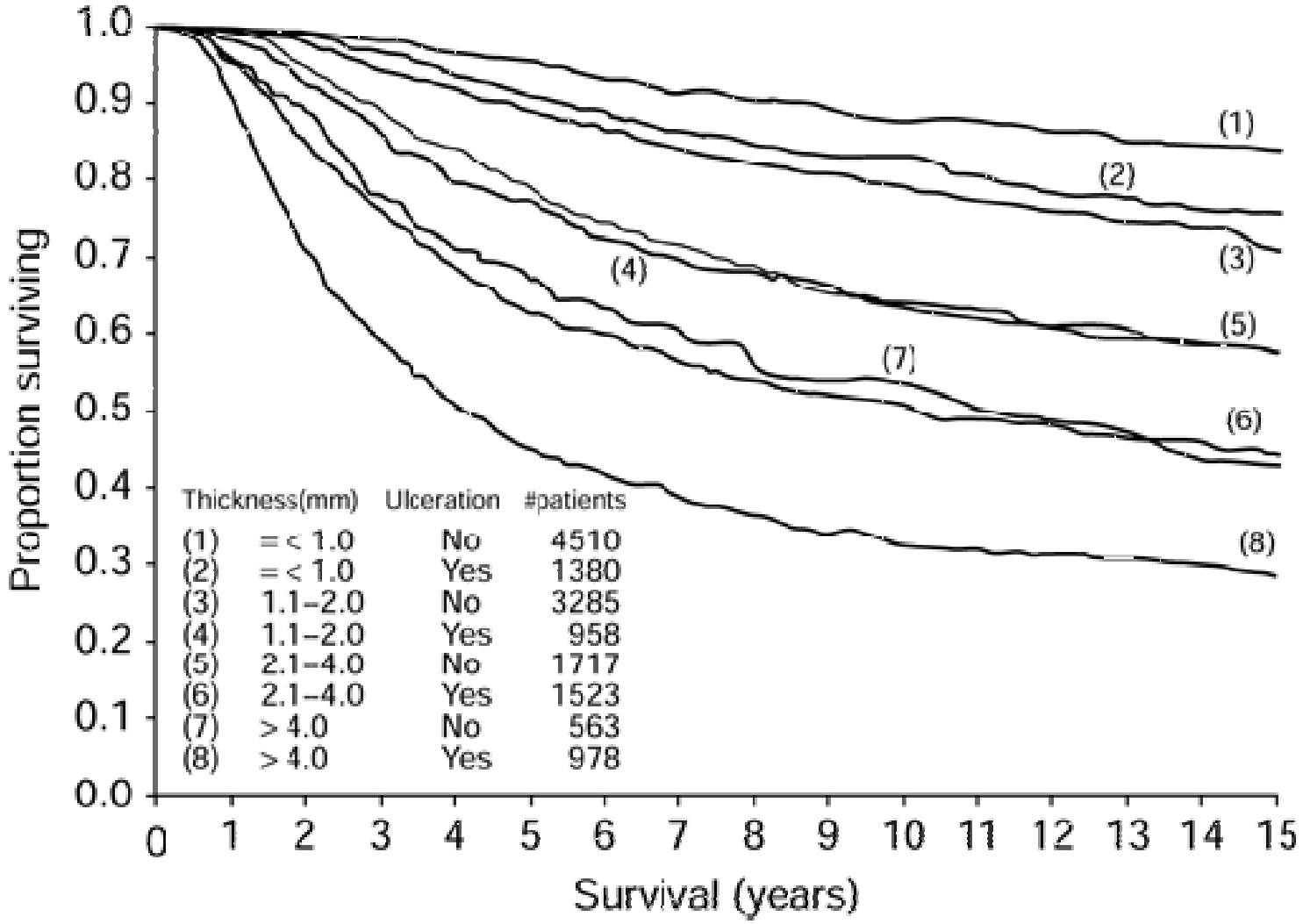
Reproduced courtesy of: Balch M, Buzaid AC, Soong SJ, et al. Final Version of the American Joint Committee on Cancer Staging System for Cutaneous Melanoma. J Clin Oncol 2001;19:3635–48.

Follow-up

<1.0 mm every 3 months for 1 yr., then every 6-12 months

>1.0 mm every 3 months for 2 yrs., then every 6 months for 3 years, then every 12 months

Prognosis


Proportion surviving
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Survival (years)
(1)
(2)
(3)
(4)
(5)
(6)
(7)
(8)
Thickness(mm) Ulceration #patients
(1) =< 1.0 No 4510
(2) =< 1.0 Yes 1380
(3) 1.1–2.0 No 3285
(4) 1.1–2.0 Yes 958
(5) 2.1–4.0 No 1717
(6) 2.1–4.0 Yes 1523
(7) > 4.0 No 563
(8) > 4.0 Yes 978

Prognosis

relatively hard to predict

late (over 10 yrs.) metastasis capacity

low risk: < 0.75 mm

medium risk: 0.75- 1.5 mm

high risk: > 1.5 mm

Differential diagnoses

Pigmented BCC

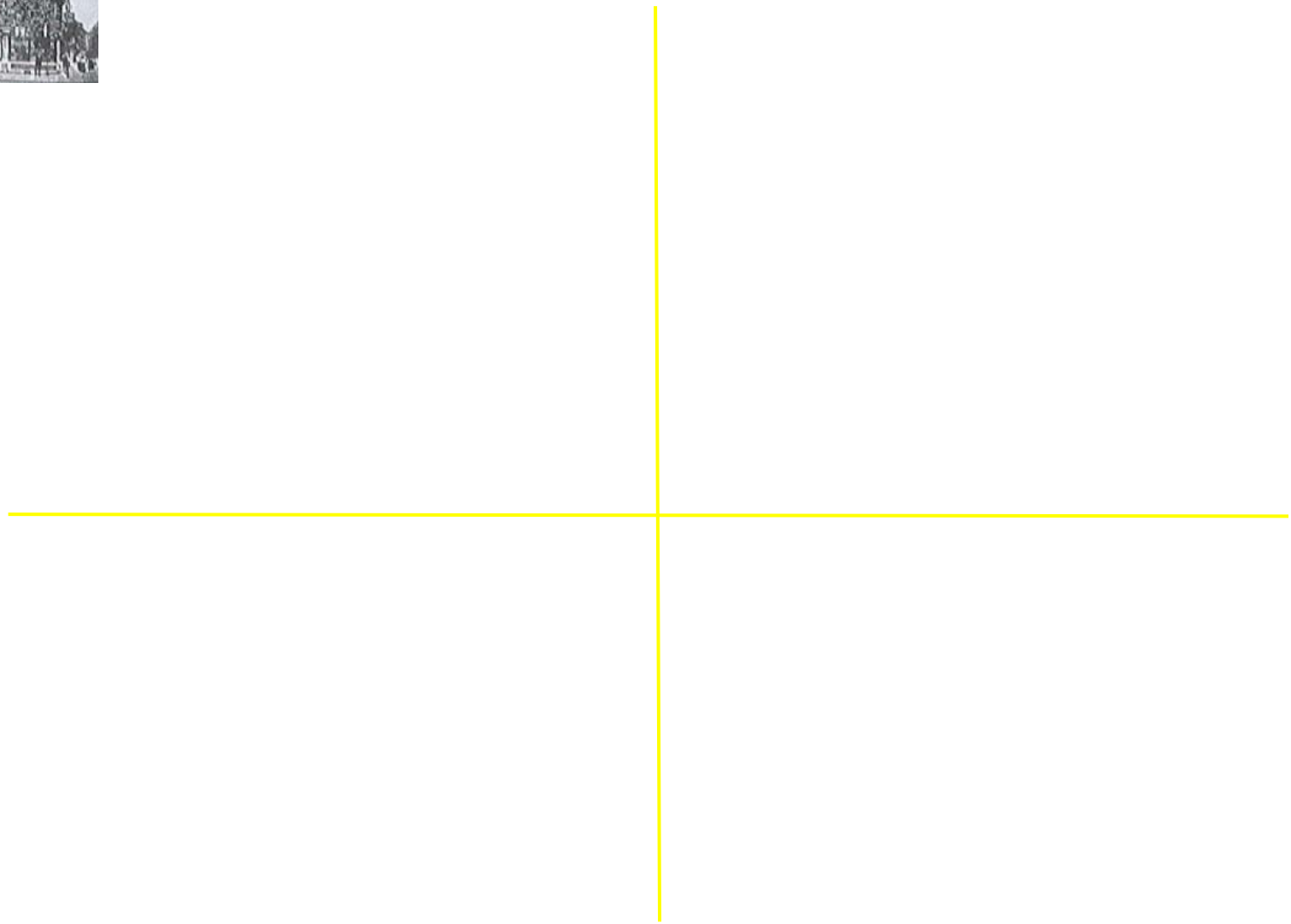
Seborrhoeic keratosis

ABCD rule

A= Asymmetric	aszimmetrikus
B= Border irregularity	határa egyenetlen
C= Color	sötétbarna, fekete inhomogén
D= Diameter	átmérő > 6 mm
E= Elevation	előemelkedő

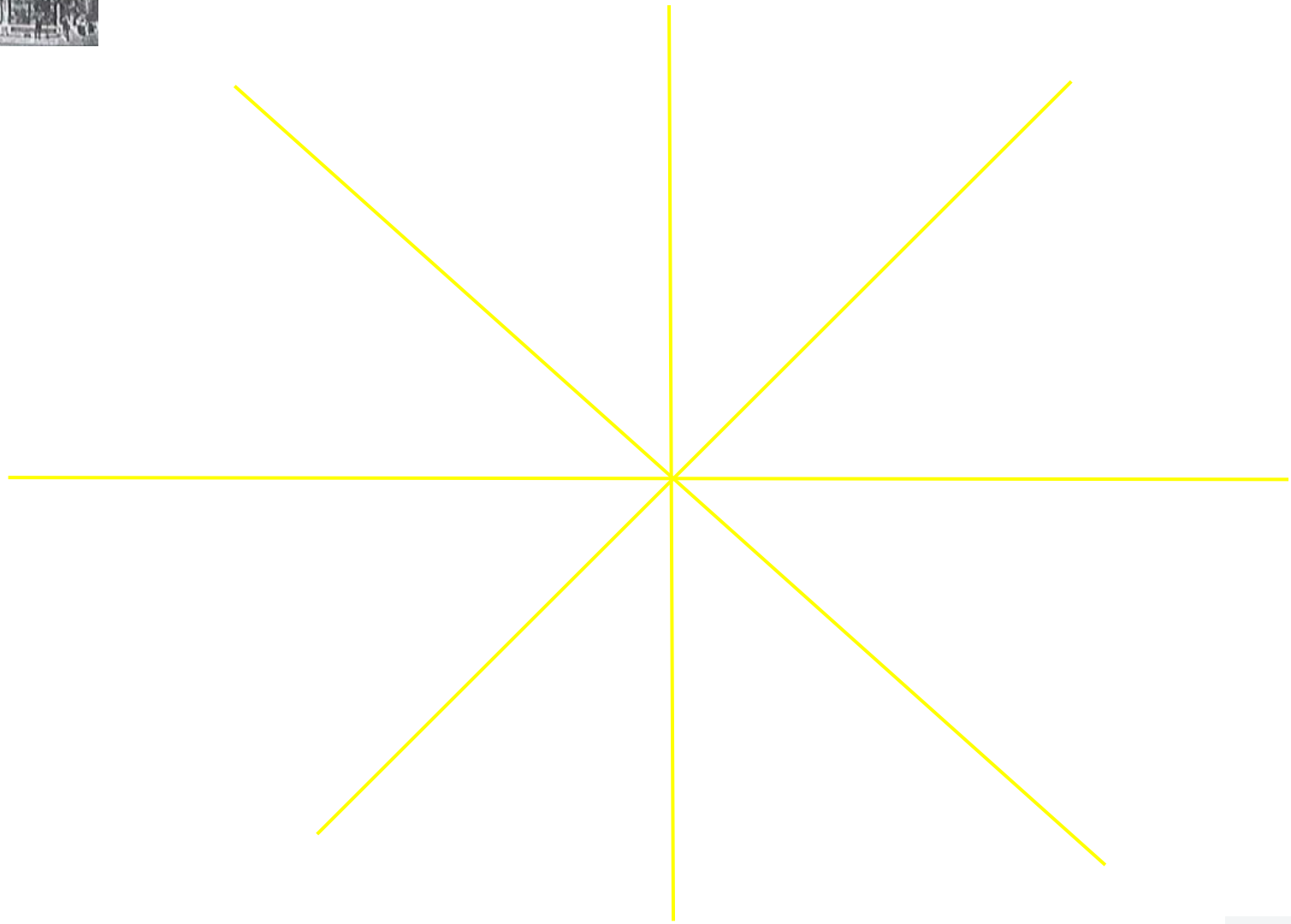
Moles and MM - malignant

Dermoscope



1. Symmetry x 1.3

Dermoscope



2. Pigment blending x 0.1

Dermoscope

1. Light brown
2. Dark brown
3. Black
4. White
5. Red
6. Blue

3. Colors x 0.5

Dermoscope

4. Structures x 0.5

Moles and MM - malignant

Moles and MM - malignant

Moles and MM - benign

Moles and MM - ?

Solarium misbeliefs

- No sunburn occurs
- Prepares for vacation
- Brown skin healthier
- Improves mood
- Harmless if used moderately

Suntan parlors??

The role of UVA

Sunscreen vs. shade

Vitamin D

Not simply osteoporosis!

Marked anti-tumor activity

Sufficient supplementation is needed

Epidemiology

US, UK: northern climate, clothes:
D hypovitaminosis

Of 15,778 outpatients:
9% low serum 25-hydroxyvitamin D (15 ng/ml) N. Engl. J. Med. (1998)

Among adults in South East Queensland (highest skin cancer incidence) 8 - 23%

Sunscreens

Ladies and gentlemen of the class of '97: Wear sunscreen.

If I could offer you only one tip for the future, sunscreen would be it. The long-term benefits of sunscreen have been proved by scientists, whereas the rest of my advice has no basis more reliable than my own meandering experience. I will dispense this advice now....

... But trust me on the sunscreen.

(Mary Schmich, *Chicago Tribune*, 1997)