What do the colours yellow and red mean to the dermoscopist?

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DECLARATION OF INTERESTS

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In dermoscopy, we see...

• Colours
• Shapes
• Patterns
• Colours
  • Red
  • Yellow
Summary of presentation

• **Red** on dermoscopy is generally intravascular haemoglobin
  • It may represent inflammation or vessels
  • It may be a significant pointer to malignancy when seen in a melanocytic lesion

• **Yellow** on dermoscopy is generally oxidised keratin or fatty material
  • Yellow is generally reassuring

• As ever, context (including history) is vital.
Name that colour!
Is red a red flag sign?

THIS IS A RED SIGN.
NOTHING CALMING OR REASSURING HAS EVER BEEN WRITTEN ON A RED SIGN.
SO BEST YOU JUST ASSUME THE WORST.
HASTA LA VICTORIA SIEMPRE
• New red nodule!!!!!
Dotted vessels as global feature

Amelanotic melanoma
Red is an important colour in melanoma.
Rules for looking at vessels

• Learn to study vessels (including pressure and focus/pressure)

• Study the **morphology** of the vessels

• Study the **distribution** of the vessels

• Look for **non vascular** clues
Pressure from glass plate alters the appearance
Benign intradermal naevus-comma vessel

no touch  
Glass plate contact
Nodulocystic BCC

Vessels pressed flat with glass plate of ‘scope
vessel patterns

- **Comma** (curvilinear)- benign intradermal naevus
- **Dotted**- melanocytic (benign or malignant)
- **Linear-irregular**- nodular melanoma or other poorly differentiated skin cancer
- **Polymorphous**- multiple forms including corkscrew
- **Arborising or serpentine**- basal cell cancer
- **Glomerular**- Bowen’s disease
- **Looped/centred**- seborrhoeic keratosis
- **Marked radial hairpin**- well differentiated SCC/KA
- **Crown**- sebaceous gland hyperplasia
from ‘Chaos and Clues’ algorithm, courtesy of Harald Kittler, Cliff Rosendahl et al
Glomerular (coiled)  Dotted
- **Morphology** = coiled
- **Distribution** = global (uniform, homogenous)
- **Non-vascular features** = keratin
- = Bowen’s disease
Dotted vessels in a melanoma

- **Morphology** = dotted
- **Distribution** = highly asymmetrical
- **Non-vessel features** = chaos, multiple colours, brown clods, blue-grey featureless area etc
- = melanoma
Linear-irregular/polymorphous
Polymorphous vessels in pink melanoma
Polymorphous vessels in a chaotic lesion
Polymorphous vessels
2cm eroded nodule on flank
Large pyogenic granuloma
Looped/hairpin vessels
Looped vessels in a warty lesion
The short looped/centred vessels in pale halos make up Almost the whole lesion

Traumatised seborrhoeic keratosis
Hairpin/looped vessels
In traumatised seb k

Note also thrombosed vessels in top left of lesion
Traumatised seb k
Biopsy proven seb wart
• **Morphology** = looped
• **Distribution** = radial
• **Non vessel features** = white clods plus surface keratin

• = squamous cell cancer
Biopsy proven Bowen’s disease-red looped vessels, yellow oxidised keratin
Traumatised seb k
Red and yellow lesions can be Bowens’, seb k or SCC due to vessels plus oxidised keratin
Arborising vessels
Characteristics of typical nodular BCC vessels

• **Sharply focussed**
• Taper from broad to very fine
• Branching-like bare oak tree in winter
• Sharp angles and curves
• Anatomising
• Cross centre of lesion
Serpentine vessels seen in superficial BCCs

• Still sharply tapered
• Short
• Snake like (serpentine)
• Superficial BCCs (the other sign is micro ulcers and brown pigmentation e.g. spoke wheel
Superficial BCC-red background, micro ulcers
Red lesion on back with peripheral pigment clods = superficial BCC
Comma (curvilinear) vessels
Benign intradermal naevus
Comma vessels in a benign intradermal naevus
It’s in the focus, taper and branching

curvilinear=dermal naevus

arborising=BCC
More curvilinear vessels in a benign compound naevus
An odd lesion, but stable over many years and entirely made up of lacunae - so harmless.
This lesion was excised
As it was undiagnosable.
Histology=
Eccrine poroma
Can you tell the difference? I can’t.

Eccrine poroma

Basal cell cancer

Weird things ‘go for a swim’ (in formalin, en route to the histopathology dept.)
Yellow in dermoscopy is usually reassuring

• Sebaceous/fatty material
• Oxidised keratin
• Fibrin
Oxidised keratin = yellow

Seborrhoeic keratosis

Thickened toenail with trauma (blood)
Yellow is related to brown-seborrhoeic keratosis
Coral pattern
— yellowy brown
Asymmetry: Colour and pattern trump shape
Sebaceous gland hyperplasia
(adjacent to seborrhoeic keratosis)
xanthogranuloma
Collision between seb k and LM?
Histology seb k with pigment incontinence
Sebaceous glands on nose, red background vessels
Yellow + red in an new nodule, Male 35
Any ideas what it is?
Reticulohistiocytoma
Red and yellow in dermoscopy-summary

• Melanoma is immunogenic-beware diffuse red/pink
• Learn the morphology of vessels and their meaning
• Yellow is generally reassuring

• As ever, context is everything.
Thank you

Please consider joining the

International Dermoscopy Society

Membership is free, connect with 15,000 colleagues worldwide

Daily case discussions on the Society’s Facebook Dermatoscopy page.