Dermoscopy-a BRIEF introduction

Aim of presentation

-to tell you what dermoscopy is

-to show some of what it can do

-point the interested learner to further resources
Overview of dermoscopy

• Dermoscopy in trained hands has been shown to improve the diagnosis of pigmented lesions.

• It augments but does not replace traditional skin lesion recognition skills.

• It can greatly reduce referrals and excisions of benign lesions by resolving uncertainty

• It can also reduce the number of missed melanomas
Approach to the patient who is concerned about a skin lesion

• History (how long, what change, previous lesions, family history, sun exposure etc)

• Visual (ABCDEF, background skin, other lesions)

• THEN dermoscopy may reveal additional data

• -which must then be INTERPRETED!
Examine the whole patient
Seen this week in clinic
BCC confirmed on dermoscopy
However, on his back...2 more BCCs he knew nothing about
Superficial BCC
What is a dermoscope?

• *Its just another ‘scope!* Like a stethoscope, auriscope or ophthalmoscope, it gives you more information. Like these other diagnostic aids, it does not replace traditional history taking and examination, and it requires training and experience to use correctly.

• The dermoscope is a hand held x 10 skin microscope.

• It *illuminates, magnifies and breaks down refraction* to allow a deeper view, revealing hitherto unseen structures.
Lesions dermoscopy helps diagnose

- Benign naevi
- Seborrhoeic warts
- Haemangiomas
- Dermatofibromas
- Basal cell cancers
- Bowen’s disease
- Melanomas and dysplastic naevi

The main role of GP dermoscopy is to screen these benign lesions out.
BENIGN NAEVI -
dermoscopic features of benign melanocytic naevi

• Symmetry (shape, colour, architecture)
• Reticular pigment network
• Regular globular pigment
• Ideally one colour
• 2 adjacent shades of brown (fried egg naevus)
• Similar to the patient’s other naevi
• Absent dermoscopic melanoma features
Reassuring signs in mole dermoscopy

- **Symmetry**
- Only colour is brown *(2 shades of brown is usually OK if nothing else wrong)*
- Gentle fade-out at periphery
- Even reticular network
- Even globular pattern
- Even amorphous blue pattern
- Even central hypopigmentation
- Even central black blotch
Central hypopigmentation and peripheral network
Central amorphous, peripheral dots. Very good symmetry, dots even in size, colour and distribution.
Cobblestone = big globules throughout. Very reassuring
Central black blotch, good symmetry. Action depends on history and context. If this is stable there are no concerns, especially if the patient has several similar lesions. If it was new and growing in a high risk patient, 2nd opinion may be advisable. PS ignore the globules at 12 and 3 o’clock, too few to worry about given the overwhelming Appearance of symmetry.
Good symmetry in 2 planes (long axis and 90 degrees as shown by lines)
Another example of reticular network with multifocal hypopigmentation. Harmless.

Again, not the even fade out all the way round the edge.
Similar to last image. Excellent symmetry in 2 planes. Peripheral dots and globules indicate growth. If symmetrical and there are other similar lesions on the patient = reassuring. But be slightly cautious if this was a single lesion with a clear history of recent change.
Amorphous hypopigmented centre, peripheral network.
Good symmetry in 2 planes. No concerns
Even amorphous blue. = blue naevus.

Harmless unless rapidly changing or multiple
Bland dermal naevus with comma vessels as a global feature

Note blanching due to pressure from dermoscope glass plate
More benign naevi - globular pigment pattern

Even globular pattern (ear)

‘Cobblestone’ globular pigment, fading out evenly towards the edge
Ink spot lentigo

Odd shape, but very even colour

Often multiple. Harmless.
More harmless naevi

‘brain like’ warty naevus

‘fried egg’ topography. 2 shades of brown OK if concentric and even
Study as many non-suspicious naevi as possible to get a feel for the range of normal.

Then when you see something wrong, it will stand out.

MELANOMA
BCPs-dermoscopic features

• Absent features of melanocytic lesion or BCC
• Comedo like openings
• Keratin cysts (milia like or ‘star bright’)
• Fissures
• Keratin
• ‘fat fingers’/cerebriform appearance
• Well defined border, often ‘stuck on’
Note multiple comedo like openings and milia like cysts.

Clearly marked stuck on border.

- Note the meniscus of dermoscopy medium (alcohol gel)
Again, multiple comedo like openings
Plus half a dozen milia like cysts
Similar features to last image, comedo like openings, milia like cysts and ‘stuck on’ border.

The darker central section is of no concern given the clear features of a seborrhoeic wart.
Multiple comedo like openings, otherwise known as keratin pits.

Harald Kittler refers to these as ‘brown clods’
Flat seborrhoiec keratosis. Note elevated Portion bottom right where some small comedo Like openings can be seen. These are absent from the flat portion of the lesion.
Same patient as last slide. Note the ‘fat fingers’ and also small comedo like openings in The elevated upper right portion of the lesion.

Seborrhoeic keratoses start flat and get thicker, their appearance changes during this process.
Another typical thicker seb k. Comedo like openings centrally, milia like cysts at lower Right hand quadrant.

For the more advanced Learner-note the looped vessels. They are a good pointer to a seb k But can be seen in some other lesions
Traumatised seborrhoeic warts

These can look alarming, with a history of recent colour and size change, bleeding and itch

Dermoscopy may reassure by showing typical benign features plus blood in the fissures

If in doubt, photo and review in 10 days
Note blood in crypts, also poorly focussed looped vessels, and charcoal flecks (thrombosed capillaries) in top right hand quadrant.
Blood clot and charcoal flecks, typical of recently traumatised seborrhoiec wart
Frogspawn = looped vessels in pale halos.
haemangiomas

- Lacunae (clods) of blood in fibrous stroma
- Blue, red and purple (black if thrombosed)
- ‘bunch of grapes’

- **Absent** features of BCC
- **Absent** features of melanoma
- **Absent** features of wart or benign naevus
Haemangioma with dermoscopic view

Lacunae of purple and deep blue blood in fibrous stroma
Haemangioma on sun damaged skin. ‘bunch of grapes’ on dermoscopy
An old friend contacted me as scared and GP unable to confidently reassure
Dermatofibroma clinical features

• Typically 5-8mm hard dermal structures
• Most often found on legs and shoulders
• ? Insect bite chronic reaction
• BIDIGITAL PALPATION is the key to diagnosis
• .....however, due to pigmentation these are sometimes referred as ? Melanomas
• Dermoscopy may offer Decision support
Central white scar and peripheral pigment network
Note the pseudolattice with brown circles and ovals around the irregular central white scar.

PALPATION is the main key to diagnosis of dermatofibroma. Dermoscopy is icing on the cake.
Basal cell carcinoma

- ‘naked eye’ features magnified
- Absence of benignity features
- Small ulcers revealed
- Arborising telangiectases
- Ovoid nests/blue grey structures
- Cart wheel/maple leaf structures
- ‘orange and raspberry trifle’ (SH)
BCC pigmented structures
BCC – the 4 classic dermoscopic features

- micro ulcers
- pink background
- sharply focused branching vessels
- irregular pigmented structures

Don’t look too hard for ‘maple leaves or ‘cart wheels’!!!
Classical arborising vessels.

Note also some blue-grey ovoid nests
Classic arborising BCC vessels, note also the pink background and irregular pigmented structures between 6 and 8 o’clock.

Probable micro ulcer (yellow)
Full house!

Pink background, arborising vessels, micro ulcers, irregular pigmented structures

Typical blue grey ovoid nests
BCC and blue tattoo ink
Bowen’s disease

• History (typically elderly white female, slow growing solitary plaque on lower leg)
• Rare under age of 60
• 1-2cm red scaly plaque
• DERMOSCOPIC
  • Confirms keratin scale
  • ‘Glomerular’ capillaries
• Absent dermoscopic features of BCC
MELANOMA dermoscopic features

- Asymmetry
- Multiple colours
- Multiple patterns
- Irregular dots and globules
- Streaks
- Pseudopods
- Blue/grey (blue/white) veil
- Amorphous featureless
Algorithms and scoring systems

- Several exist, all work if used by Experienced dermoscopists
- The most basic is **CHAOS AND CLUES**
CHAOS AND CLUES

• chaos is defined as
• MULTIPLE COLOURS and/or
• MULTIPLE PATTERNS in a flat suspicious lesion
  (different rules apply to nodular lesions)

• If you see chaos, look for clues
• If chaotic and not a seborrhoiec keratosis, consider excision
Irregular globules

1 cm pigmented lesion on jaw, history or recent change, female 75

Irregular dots and globules - also broadened irregular network. Histology = melanoma
Asymmetrical black blotch
(? Blue grey veil?)

Note peripheral globules between 2 and 6 o’clock
Irregular/asymmetrical globules
CHAOS!!!
Atypical network

BLUE GREY VEIL

ERYTHEMA
Incidental finding, this week
Multiple colours and patterns
Worried?
Dermoscopy - SUMMARY

• Useful adjunct to history and examination
• Limited use for nodular lesions
• Proven ability to reduce needless referral and excision of benign lesions
• Requires training and experience
• CAUTION-no 2 lesions are identical

• IF IN DOUBT YOU MUST REFER
3 good dermoscopy books about £50 each from Amazon.

Jonathan Bowling

Soyer, Argnziano et al

Menzies et al
Dermoscopy learning resources

www.pcds.org.uk

My blog at www.dermoscopy.wordpress.com has links to other resources as well as some of my pictures

Plus a PDF of this presentation

Try YouTube!!!

Stephen Hayes