

Chaos Clues and Exceptions

An algorithm for pigmented skin lesions

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Step 1:

Is it a lesion of concern?

Can I make a **confident** specific **benign** diagnosis by dermatoscopic **pattern-recognition**? If the answer is "no", then apply the algorithm.

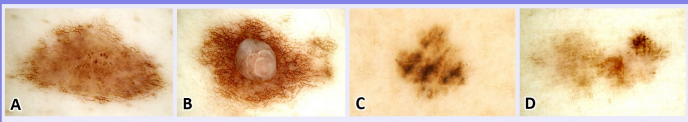
There are 5 benign lesion-categories which cover most skin lesions, pigmented or non-pigmented, encountered in routine practice:



Step 2:

Is there dermatoscopic chaos?

Defined as asymmetry of any, or all of: **pattern, colour or border-abruptness** (Shape does not matter)



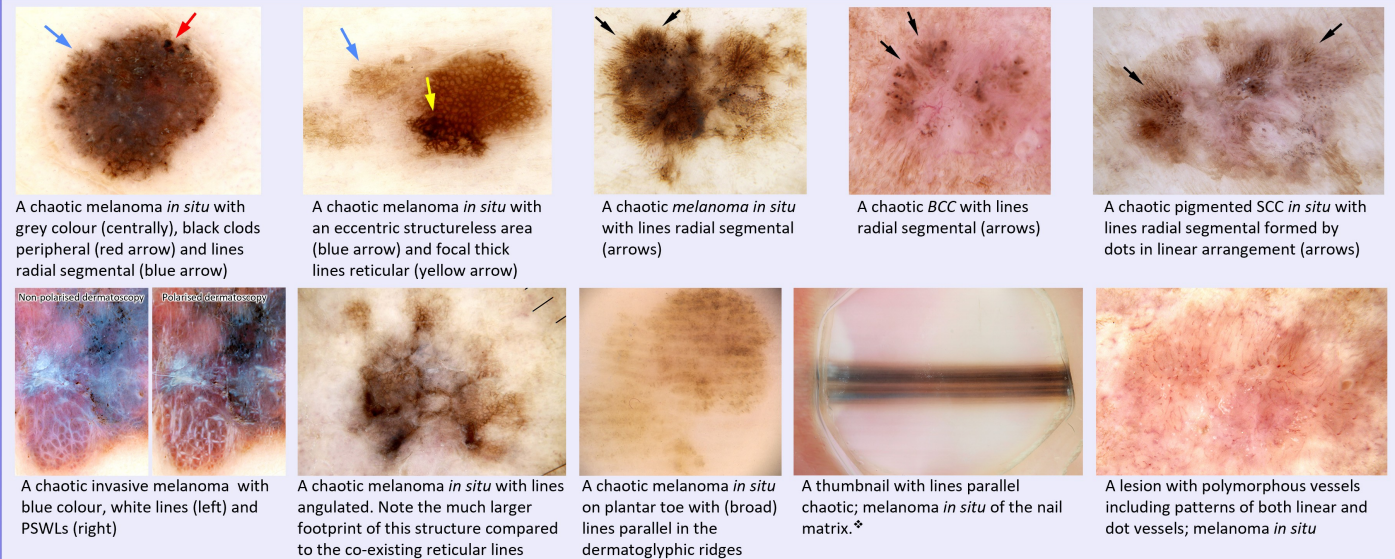
Lesions 'A-C' are non-chaotic with 'D' exhibiting asymmetry of pattern, colour and border-abruptness

Step 3:

Is there one or more of 9 specified clues to malignancy?

Suggestion: specifically look for *grey colour first* – it will be present in most pigmented malignancies

Also deliberately look for an *eccentric structureless area*. If present, with experience, the other clues should be *evident*.



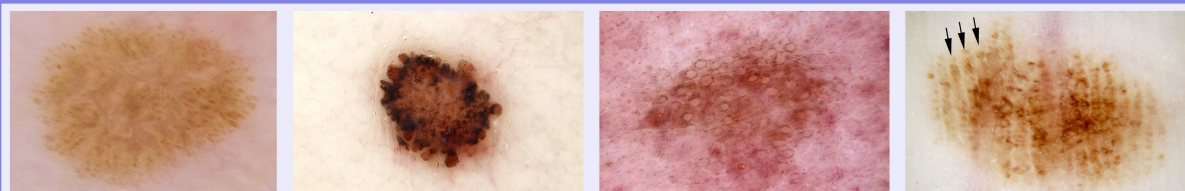
* NOTE: *any longitudinal melanonychia, chaotic or not*, arising in a *single nail after puberty*, with *progressive widening*, requires consideration of nail matrix biopsy.

Step 4:

Is there one or more of 4 specified exceptions?

No lesion of concern which has escaped excision biopsy based on chaos and clues should be spared without first considering exceptions!

Note- the first two exceptions are relevant to all skin lesions but the second two are site-specific.



A non-chaotic lesion on a 58-year-old with peripheral clods indicating the dermatoscopic exception of a changing lesion (adult); melanoma invasive

A 3mm non-chaotic lesion on a 61-year-old with the same exception as the previous case plus the exception of a small and a nodular lesion with any clue (grey colour); nodular melanoma

An arguably non-chaotic lesion on the ear of a 52-year-old with the exception of pigmented circles on the head/neck; melanoma in situ

A non-chaotic lesion on the plantar foot of a 50-year-old with the exception of parallel ridge pattern on volar skin (arrows); melanoma in situ

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