Diabetes and the skin

Onychomycosis

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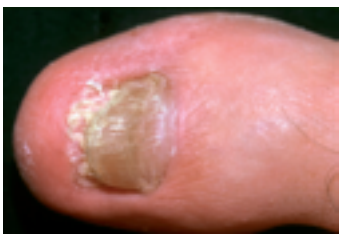
Case history – Oliver

Oliver is aged 70 years, has had type 2 diabetes for 18 years, and has been treated with insulin for 4 years. He presents after two episodes of cellulitis of his right lower leg and forefoot, which have cleared on antibiotics. There are no residual skin changes on his leg and forefoot other than some postinflammatory pigmentation.



Question 1
Which areas is it important to examine, and why?

Question 2
On further examination you find scaling of the sole and toe web spaces and thickened dystrophic toenails. What would you do next?

Question 3
What management would you recommend?

Question 4
What self care advice would you give Oliver?

Answer 1

All of the foot, especially the soles, nails, and toe web spaces should be examined. Tinea anywhere on the foot can be a site of entry for the bacteria that cause lower leg cellulitis. Diabetes makes a person more prone to bacterial infections and it is important to identify potentially treatable causes.

Answer 2

A skin scraping from the sole should be taken to confirm tinea. If a negative result is returned but there is strong clinical suspicion, repeat nail clippings are needed.

If nail cultures are repeatedly negative, other common diagnoses to consider are psoriasis and onychogryphosis (thickening of the nail due to trauma or sustained pressure).

Answer 3

In people with diabetes, tinea of the foot or nail can provide a focus for local infections (eg. paronychia) as well as a more distant cellulitis, and should be treated if present. If nails are involved, oral treatment should be given, preferably terbinafine.

If a nail clipping shows positive microscopy or culture, a course of terbinafine tablets can be given on a Pharmaceutical Benefits Scheme (PBS) authority. This is the most effective treatment and leads to long term clearance in about 70% of patients with a 3 month course. Other oral treatments (eg. itraconazole) are almost as effective but are not available on the PBS for treatment of nail tinea.

Common side effects of terbinafine include dyspepsia, diarrhoea, taste disturbance, and urticaria. Hepatotoxicity and neutropenia have been reported and liver function tests and blood pictures should be monitored during the course.

Answer 4

There are two issues to address:

- thickened dystrophic nails – as these are caused by sustained pressure, Oliver's footwear should be reviewed to ensure his feet and nails are protected from pressure. A podiatrist could advise Oliver on his footwear and how to safely trim his thickened nails
- tinea – appropriate foot care includes washing the feet and web spaces with warm water and mild soap, preferably daily. The skin and web spaces should be carefully dried with a soft towel, and a moisturiser should be used to keep the skin on the dorsum and soles soft and pliable. An imidazole solution or powder or terbinafine gel could be applied to web spaces, particularly if there is persistent maceration.

Oliver should report any flaking or breaks in the skin so minor problems (eg. tinea) don't develop into major ones (eg. cellulitis).

If Oliver is unable to reach, see, or handle his feet as suggested, a carer or visiting health professional should be advised what to do.

Conflict of interest: none.

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