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**Papulonecrotic Tuberculid: A Rare Case Report**

Khalid Al Hawsawi, MD*; Dania Amassi, MD; Dalal Alesa, MD; Faisal Alraddadi, MD; Ghassan Niaz, MD; Waseem Alhawsawi, MD

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**ABSTRACT**

Tuberculids were originally felt to be related to an allergic response to tubercle bacilli in a patient with tuberculosis at a remote site. They are currently believed to be the result of hematogenous dissemination of organisms from an internal focus to the skin, where they incite a cutaneous inflammatory response. Papulonecrotic tuberculid (PNT) is a form of tuberculids that as the name implies presents clinically as necrotic papules. Herein, we report a case of 59-year-old man who presented with recurrent asymptomatic symmetrical necrotizing papules scattered on his trunk for 9 months. The patient has also crusted plaque on his right forearm. Two skin biopsies were made, one from papulonecrotic lesion on his trunk and the other one from the crusted plaque on his right forearm. The crusted plaque on the forearm showed granulomatous cellular infiltrates and caseation necrosis in the dermis, whereas the papulonecrotic lesions showed patchy perivascular mononuclear cellular infiltrates as well as granulomatous cellular infiltrates in the dermis. Tuberculin test was positive. A diagnosis of lupus vulgaris on the forearm and PNT on the trunk were made based on clinicopathological findings. The patient was seen by chest physician where there was no systemic involvement. Patient was treated successfully with anti-tuberculosis drugs for 9 months with complete resolution of all skin lesions.

**KEY WORDS:** Papulonecrotic tuberculid; Anti-tuberculosis; Lymphadenopathy.

**INTRODUCTION**

Tuberculids were originally felt to be related to an allergic response to tubercle bacilli in a patient with TB at a remote site. They are currently believed to be the result of hematogenous dissemination of organisms from an internal focus to the skin, where they incite a cutaneous inflammatory response.¹ Tuberculids are uncommon manifestation even in a high prevalence TB areas. Once diagnosis of a tuberculid has been made, a thorough evaluation for active tuberculosis should be initiated. Mycobacterium tuberculosis culture from tuberculid is of low yield. Papulonecrotic tuberculid (PNT) is a form of tuberculids that as the name implies presents clinically as necrotic papules. Tuberculid was first described by Darrier in 1896. It represents an Arthus reaction (type III hypersensitivity reaction) accompanied by delayed-type hypersensitivity reaction (type IV).²⁻⁵ Papulonecrotic tuberculid presents clinically as a chronic recurrent asymptomatic symmetrical necrotizing skin papules arising in crops and heal with atrophic varioliform scarring. It’s primarily involving the extensor surfaces of extremities, trunk, and buttocks.²⁻⁵ Treatment of PNT is like the treatment of tuberculosis by antituberculous treatment.

**CASE REPORT**

A 59-year-old man presented with 9 months history of recurrent asymptomatic skin lesions. The lesions last for 1-2 months then disappear spontaneously without treatment but recur again.
The patient has past medical history of cervical lymphadenopathy 6 years ago where it was excised surgically with unknown diagnosis. He did not receive any treatment at that time. No history of similar condition in his family. Reviews of systems were unremarkable. Skin examinations revealed two different types of skin lesions. The first one was crusted plaque measuring 5×5 cm on his right forearm. The second one was multiple discrete non scaly erythematous papules with necrotic centers scattered on his trunk (Figure 1). There was no lymphadenopathy. Two skin biopsies were made, one from crusted plaque on his right forearm and the other one from the papulonecrotic lesions on his trunk. The crusted plaque on his forearm showed granulomatous cellular infiltrates and caseation necrosis in the dermis with positive acid-fast bacilli stain (Figure 2), whereas the papulonecrotic lesions showed patchy perivascular mononuclear cellular infiltrates as well as granulomatous cellular infiltrates in the dermis. Tuberculin test was positive. Sputum sample for TB staining and culture were negative. Chest X-Ray was normal. A diagnosis of lupus vulgaris on the arm and PNT on the trunk were made based on clinicopathological findings. The patient was seen by chest physician. There was no systemic involvement. Patient was treated successfully with anti-tuberculosis drugs for 9 months with complete resolution of all skin lesions.

DISCUSSION

Cutaneous tuberculosis (TB) is either “true” cutaneous TB (lupus vulgaris, TB verrucosa cutis, scrofuloderma, orificial TB, military TB) or tuberculids (Papulonecrotic tuberculid, nodular vasculitis, lichen scrofulosorum, and erythema nodosum).1-6

In cutaneous TB, the extracutaneous focus is found in only 30-40% of cases, with cervical lymph nodes being the most common site, as in our patient.7

Some authors proposed diagnostic criteria for PNT as the following: A strongly positive Mantoux test; chronic recurrent papular eruptions occurring in crops with necrosis, ulceration, and scarring; a tuberculoid histology with endarteritis and thrombosis of the dermal vessels; and regression in response to antituberculosis treatment. Our patient fulfilled all diagnostic criteria of PNT.

Although PNT is a very rare, its association with lupus vulgaris is rarer.

Polymerase chain reaction (PCR) is a very sensitive tool to demonstrate organisms and the first instance of PNT yielding mycobacterium tuberculosis DNA was reported by Victor et al.8

CONSENT

Consent has been taken from the patient for purpose of using patient’s photographs for publication in print or on the internet.

CONFLICTS OF INTEREST

The authors have no conflicts of interest that are directly relevant to the content of this review.

FUNDING

No sources of funding were used to assist in preparation of this manuscript.

REFERENCES


Erythema Annulare Centrifugum (Deep Type): A Rare Case Report

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ABSTRACT

Erythema annulare centrifugum (EAC) is one of the figurate erythemas. It is uncommon inflammatory condition characterized by annular or arcuate erythematous eruptions that slowly enlarge centrifugally. It persists from few days to several months. It can be recurrent. Here in we present a 40-year-old-male otherwise healthy, is working as a nurse in leprosy hospital. He was concerned from having leprosy. He developed recurrent asymptomatic skin lesions on his face for the last 5 months. The lesions start as small pimples that are getting bigger every day. The lesions last for few weeks and then disappear but recur again after weeks to months. Sensation examination of the facial skin was normal. On palpation of periauricular nerves, there was nerve hypertrophy. His older brother had similar skin lesions 10 years ago that lasted for few months and then healed without treatment. Skin examination revealed multiple non-scaly annular erythematous plaques, with variable sizes ranging from 2 cm to 4 cm on his face. Skin biopsy showed normal epidermis. The dermis showed moderately dense perivascular and peridendral mononuclear cellular infiltrate in coat sleeve pattern in both upper and lower dermis. Fite stain was negative. The patient was reassured.

KEYWORDS: Erythema annulare centrifugum; Figurate erythema; Erythema gyratum perstans.

INTRODUCTION

Erythema annulare centrifugum (EAC) is an uncommon inflammatory skin disorder characterized by figurate erythematous eruptions that slowly enlarge centrifugally.1-3 EAC is self-limited disease with variable course that lasts as little as few weeks to as long as three decades. The exact cause of EAC is not known. However, various agents have been implicated including hypersensitivity reaction to drugs (penicillin, salicylates, hydrochlorothiazide), arthropod bites, infections (bacterial, mycobacterial, viral, fungal, filarial), food allergy (blue cheese Penicillium), malignancy as (lymphoma, multiple myeloma, breast cancer), autoimmune and endocrine disease (Hashimoto Thyroiditis, Sjogren syndrome).4-8

EAC is classified into two types. The superficial type is characterized clinically by presence of fine collarette of scales on the trailing edge of the annular plaques which histopathologically show pronounced epidermal changes as well as perivascular cellular infiltrate in superficial dermis. The deep type is characterized clinically by non-scaly annular plaques with infiltrated borders which histopathologically show perivascular cellular infiltrate in both
superficial and deep dermis with minimal epidermal changes.3-8 A “Coat sleeve” pattern of the perivascular cellular infiltrate in the dermis is the classical histopathological feature of EAC.

A “Coat sleeve” pattern is a tight (sharply demarcated) mononuclear cellular infiltrate around blood vessels of the dermis. EAC occurs at any age but more commonly in fifth decade of life. Male to female ratio are equal. It can present in any part of the body but more commonly on trunk, the thigh, the legs and buttocks.8

CASE REPORT

A 40-year-old-male who is working as a nurse in leprosy hospital for the last 20 years, presented with 6-month-history of asymptomatic recurrent migratory skin lesions on his face. He was concerned from having leprosy. Over the last 6 months, he started to develop skin lesions that start as small pimples and then expand slowly forming large rings which then disappear gradually without treatment but reappear again in another site on his face. The lesions are not associated with loss of sensation or numbness. Review of systems and past medical history were unremarkable. Family history revealed that his younger brother developed similar condition 10 years ago that last for few months and then disappeared spontaneously without any recurrence until now. Skin examination revealed multiple annular non-scaly erythematous indurated plaques of variable sizes ranging from 2 cm to 5 cm on his face (Figure 1). Sensation examination of the facial skin was normal. On palpation of periauricular nerves, there were nerve hypertrophy. Skin biopsy taken from the edge of the lesion showed dense very tight perivascular mononuclear cellular infiltrate both in upper and lower dermis with a “coat sleeve” pattern (Figure 2). Stain for acid fast bacilli were negative. On the basis of the above clinicopathological findings, the diagnosis of deep type of erythema annulare centrifugum was made. The patient was reassured.

DISCUSSION

EAC is uncommon inflammatory condition characterized by annular or arcuate erythematous eruptions that slowly enlarge centrifugally.3-8 The main differential diagnosis in our patient include leprosy especially that our patient has history of contact with leprosy patients. Other differential diagnosis include granuloma annulare (GA), annular elastolytic giant cell granuloma, and secondary syphilis.3-8 However, the histopathology of the skin lesions was classical for EAC. The migratory feature and the spontaneous resolution of the skin lesions are not features of leprosy. GA is not migratory in nature. Familial EAC, as in our patient is rare. However, it has been reported before as “familial annular erythema”.5

EAC resolves either spontaneously or once the underlying disease has been successfully treated. Topical medications like corticosteroids, tacrolimus, calcipotriene, oral metronidazole, subcutaneous etanercept and subcutaneous interferon-α have been all used with some benefit.8 These have not been tried in our patient because the patient refused the treatment. He just wants to be reassured that he is not having leprosy.
ACKNOWLEDGMENTS

No sources of funding were used to assist in preparation of this manuscript.

CONFLICTS OF INTEREST

The authors have no conflicts of interest that are directly relevant to the content of this review.

CONSENT STATEMENT

Consent has been taken from the patient for purpose of using patient’s photographs for publication in print or on the internet.

REFERENCES


Case Report

**Tinea Incognito: Case Report**

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ABSTRACT

Tinea incognito (TI) is defined as absence of the classic annular configuration of tinea infection. It is caused by misuse of topical or systemic corticosteroids and less frequently by calcineurin inhibitors. Herein we present a 15-year-old boy presented with 8 months history of persistent mildly itchy skin lesions on his face. Patient used many topical treatments including steroid, but no improvement. Skin examination showed multiple well defined scaly patches and plaques on his face. Potassium hydroxide (KOH) microscopic examination and fungal culture revealed dermatophyte fungi. Itraconazole 200 mg capsules once daily for 2 weeks was prescribed. The skin lesions disappeared completely.

KEYWORDS: Tinea incognito (TI); Tinea atypica; Dermatophytoses.

INTRODUCTION

Tinea incognito (TI) is the term given to a dermatophyte infection with atypical appearance due to improper use of steroids or calcineurin inhibitors.1,2 It was first coined by Ive and Marks.3,4 The typical dermatophyte infection presents as annular lesions with erythematous scaly border and central clearing. In TI, this later feature is not seen. Rosacea-like, psoriasiform and erythroderma-like presentation of TI have been described in the literature.5,6 The diagnosis is confirmed by isolation of dermatophytes by microscopic examination with potassium hydroxide (KOH) and fungal cultures. Systemic antifungal therapy is preferred over the topical antifungals.5,7

CASE REPORT

A 15-year-old boy presented with 8 months history of persistent itchy skin lesion on his face. Patient used many topical treatments including steroid, but no improvement. Past medical history and systemic review were all unremarkable. Family history revealed history of atopic dermatitis in one of his siblings. Skin examination showed multiple well defined scaly patches and plaques on the right side of his face (Figure 1). Differential diagnosis included psoriasis, atopic eczema, contact dermatitis, and subacute lupus erythematosus. KOH microscopic examination and fungal culture revealed dermatophytes fungi. On the base of the above clinical and laboratory findings, a diagnosis of TI was made. Itraconazole 200 mg capsules once daily for 2 weeks was prescribed. The skin lesions disappeared completely (Figure 2).

DISCUSSION

Topical application of steroids may modify the presentation of the dermatophyte infection. TI on the face may mimic lupus erythematosus, rosacea, and contact dermatitis.5,6 The pathogenesis of TI is mostly due to a steroid-modified response of the host immunity to fungal infec-
tion and not to a direct pharmacological effect on the fungus.\textsuperscript{5-9} Both Potent fluorinated and non-fluorinated topical steroids may produce TI.\textsuperscript{2,4} Arise of TI infection in recent years is partly due to an increasing number of patients who self-treat themselves with topical steroids that are obtained over the counter. More recently, a few cases of TI due to use of topical tacrolimus and pimecrolimus have been reported.\textsuperscript{2-5} \textit{Trichophyton rubrum} is one of the most common anthropophilic dermatophyte throughout the world and the most frequently isolated dermatophyte in TI.\textsuperscript{3-6} Although localized dermatophyte infections respond well to topical antifungals agents, TI should be treated with oral antifungals. Terbinafin as well as the azoles like itraconazole and fluconazole are preferred over griseofulvin in treating TI.\textsuperscript{3-7}

CONCLUSION

TI is a rare skin disease that presents as atypical dermatophytosis. The typical dermatophyte infection presents as annular lesions with active scaly borders and central clearing. It is a diagnostic challenge for dermatologist because it may mimic a variety of different dermatosis. A high index of suspicion is required for dermatosis that are unresponsive to topical immunosuppressants. TI should be confirmed by KOH microscopic examination and fungal culture to isolate dermatophytes. It is better to be treated by treated oral antifungals.

ACKNOWLEDGMENTS

No sources of funding were used to assist in preparation of this manuscript.

CONFLICTS OF INTEREST

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CONSENT STATEMENT

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\textbf{Figure 1:} Multiple Well Defined Scaly Erythematous Patches on the Right Side of the Face.

\textbf{Figure 2:} Face of the Patient Showing Post-inflammatory Hyperpigmentation after using Oral Itraconazole Capsules for 2 Weeks. Note the Acne Lesions that are Unrelated to this Case Report.

Is It Time to Reconsider the 60 Seconds-Diabetic Foot Screen Reorganizing the 60 Second Foot Exam for People with Diabetes?

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ABSTRACT

Diabetic patients have 25% lifetime risk of developing foot ulceration. More than half of these ulcers may eventually become infected, which greatly increases the likelihood of subsequent amputations. Although a multidisciplinary approach is the standard management for treating diabetic foot ulcers (DFUs), screening of diabetic foot ulcers is an integral part of that process. This review highlights the importance of the Inow’s 60 seconds screening tool but at the same time highlights serious gaps in the screening tool which is supposed to be a comprehensive screening tool for use in diabetic patients. The authors have addressed these gaps in a constructive and scientific way thereby solidifying the screening tool further in order to capture all the features and complications of the diabetic foot.

KEY WORDS: Diabetic foot; Screening tool; Diabetes.

ABBREVIATIONS: DFUs: Diabetic Foot Ulcers; IWGDF: International Working Group on Diabetic Foot; ABI: Ankle-Brachial Index.

INTRODUCTION

We read with interest the Inow’s 60 second foot exam for people with diabetes. Comprehesive and easy to apply wound screening tools are a vital pre-requisite in formulating a management plan to achieve optimal wound healing and patient well-being. The authors of the 60 second foot exam for people with diabetes made a considerable effort in devising a simple and practical screening tool for health care professionals worldwide. Since 2004, the 60 seconds-diabetic foot screen remained unscrutinized and therefore remained unchanged. Although comprehensive history is a vital element of risk assessment, clinicians cannot fully assess patients with diabetes for risk factors for foot ulceration based on history alone; a comprehensive foot exam remains the essential element of this process. Essential elements of the history include previous foot ulceration and or amputation, Charcot foot, angioplasty, cigarette smoking (number of packets per year), electrical sensation, rest pain, claudication, history of microvascular and macrovascular complications neuropathic or peripheral vascular symptoms, retinopathy, or chronic renal impairment renal replacement therapy.

A comprehensive examination of the feet and footwear in a well-lit clinic should routinely be done after the patient has taken off his shoes and socks. Although improper footwear is a common contributory element in the development of foot ulceration, most health care professionals do not pay attention to them, the footwear must be examined at every visit and

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also the patient usually comes to the clinic with a different foot- 
wear to the one(s) he or she is used to. So the health care profes- 
sional must ask about home worn foot wear as well as outdoor 
foot wear. Both the health care professional and the patient must 
ask the question “Are these foot wear adequate for these feet?”, 
since improper foot wear will result in friction, erythematous blis- 
ter, corn and callus formation and ultimately ulceration. The dis- 
cipline of wound care and wound assessment are continuously 
evolving. However, few attempts have been carried out to re-
validate screening tools and advanced wound products wound 
products.10,11

**Dermatological Problems in People with Diabetes**

Skin disorders occur in 79.2% of people with diabetes. A recent 
study of 750 patients with diabetes showed that the most preva-

cent skin conditions were coetaneous infections (47.5%), xerosis 
(26.4%), and inflammatory skin diseases (20.7%). The major-

Skin manifestations of diabetes can be divided into 
those related to insulin resistance, type 1 diabetes and type 2 
diabetes.

Skin conditions related to insulin resistance include, 
acanthosis nigricans, acrochordons, diabetic dermopathy, erupt-
tive xanthoma, ruboesis faciei and epidermal necrolysis/Ste-
vens-Johnson syndrome. Some of the most common cutaneous 
manifestations in patients with type 1 DM include, periungual 
telangiectasia, necrobiosis lipoidica, bullosis diabeticorum, vit-
ifigo and lichen ruber planus.

On the other hand patients with type 2 diabetes mellit-
tus (T2DM) complain of the following problems yellow nails or 
onychomycosis, diabetic thick skin presenting as asymptomatic 
thick skin involving the fingers and hands ranging from pebbling 
over the knuckles to diabetic hand syndrome. The skin of the 
neck and back may also be involved leading to diabetic scler-
edema, with “peaud’orange” appearance and reduced sensitivity 
to touch and pain in the affected areas. Other skin conditions 
linked to T2DM include diabetic dermopathy, acquired perforat-
ing dermatosis. Cutaneous infections associated with diabetes 
include, candidiasis, dermatophytosis, and bacterial infections.

**Diabetic Foot (Epidemiology and Etiopathogenesis)**

It is well established that a number of contributory elements 
working in a synergistic fashion eventually result in the final 
pathway to foot ulceration among patients with diabetes. The 
commonest element is peripheral neuropathy, external trauma, 
foot deformity, peripheral vascular disease, peripheral oedema and 
improper foot care practices. This makes it vital to have a 
comprehensive annual screening of patients with diabetes espe-
cially the foot and to screen them more often if they have high 
risk for foot ulcerations. Patients at high risk of foot complica-
tions including those peripheral neuropathy, long standing dia-
abetes, smokers, improper foot wear, previous history of ulcer-
ation and amputations.

**Screening Tools for Diabetic Foot**

High-risk foot identification is a vital component of comprehen-
sive diabetes care. Furthermore, risk classification allows timely 
and precise follow-up for different levels of risk. According 
to the International Working Group on Diabetic Foot (IWGDF) 
patients with a low risk should be screened in a year or sooner if 
a foot problem arises whereas patients who have loss of protec-
tive sensation can be seen more frequently i.e. every three to six 
months. Those who have previous ulceration, and or amputa-
tion and or evidence of peripheral vascular disease must be seen 
every month. Many practical tools to screen for diabetic foot 
problems exist including those for peripheral neuropathy such 
as the 10 gram monofilament, neurothesiometer, the 128 KHZ 
tuning fork, etc. Peripheral vascular disease can be assessed by 
palpation of the dorsalis pedis pulse and tibialis posterior and 
the use of hand held doppler and measuring the ankle-brachial 
index (ABI).

Several elements are essential to ensure a valid and op-
timal screening test including simplicity, quick to conduct, have 
high inter and intra-observer reliability, validity, and generaliz-
ability. In their assessment of the 60 seconds Inlow’s diabetic 
foot screen Murphy et al concluded that the tool demonstrates 
excellent interrater and intrarater reliability. However, these 
results have to be considered with caution since the numbers 
which were tested were only 69 and the sample was a convenient 
sample, therefore bias cannot be ruled out.

However, there are few shortcomings that need to be 
examined when utilizing the Inlow’s screening tool in daily 
practice and these include: under the skin section the authors 
included only.

<table>
<thead>
<tr>
<th>Skin</th>
<th>0=intact and healthy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1=dry with fungus or light callus</td>
<td></td>
</tr>
<tr>
<td>2=heavy callus build up</td>
<td></td>
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<tr>
<td>3=open ulceration or history of previous ulcer</td>
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Firstly, the combination of (dry, fungus and light cal-
lus) cannot be justified (placed together) since they are three 
separate conditions with different etiologies which can co-exist 
together or be on their own, so the numbering has to be modi-
ified. Additionally, patient with long standing diabetes may suf-
fer from autonomic neuropathy leading to dysfunctional sweat 
glands thereby leading to cracked/fissured skin which is also had 
been omitted from the screening tool.

Secondly, there is no mention of the following condi-
Inlow’s 60-second Diabetic Foot Screen™

<table>
<thead>
<tr>
<th>Screening Tool</th>
<th><a href="http://www.cawc.net">www.cawc.net</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name:</td>
<td>Clinician Signature:</td>
</tr>
<tr>
<td>ID number:</td>
<td>Date:</td>
</tr>
</tbody>
</table>

1. **Skin**
   - 0 = intact and healthy
   - 1 = dry with fungus or light callus
   - 2 = heavy callus build up
   - 3 = open ulceration or history of previous ulcer

2. **Nails**
   - 0 = well-kept
   - 1 = unkempt and ragged
   - 2 = thick, damaged, or infected

3. **Deformity**
   - 0 = no deformity
   - 2 = mild deformity
   - 4 = major deformity

4. **Footwear**
   - 0 = appropriate
   - 1 = inappropriate
   - 2 = causing trauma

5. **Temperature – Cold**
   - 0 = foot warm
   - 1 = foot is cold

6. **Temperature – Hot**
   - 0 = foot is warm
   - 1 = foot is hot

7. **Range of Motion**
   - 0 = full range to hallux
   - 1 = hallux limitus
   - 2 = hallux rigidus
   - 3 = hallux amputation

**Assess – 30 seconds**

8. **Sensation – Monofilament Testing**
   - 0 = 10 sites detected
   - 2 = 7 to 9 sites detected
   - 4 = 0 to 6 sites detected

9. **Sensation – Ask 4 Questions:**
   i. Are your feet ever numb?
   ii. Do they ever tingle?
   iii. Do they ever burn?
   iv. Do they ever feel like insects are crawling on them? 0 = no to all questions

   2 = yes to any of the questions

10. **Pedal Pulses**
    - 0 = present
    - 1 = absent

11. **Dependent Rubor**
    - 0 = no
    - 1 = yes

12. **Erythema**
    - 0 = no
    - 1 = yes

**Score Totals**

Screening for foot ulcers and/or limb-threatening complications. Use the highest score from left or right foot.

- Score = 0 to 6 → recommend screening yearly
- Score = 7 to 12 → recommend screening every 6 months
- Score = 13 to 19 → recommend screening every 3 months
- Score = 20 to 25 → recommend screening every 1 to 3 months

**Comments:**

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**Left Foot** | **Right Foot** | **Care Recommendations**
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tions which may accompany diabetic foot common conditions:

Maceration

Around 55% of wounds under investigation are reported to have macerations according to one clinical study and in diabetic ulcers maceration represents a challenge for the treating health care provider. Maceration is a frequent phenomenon in heavily exuding ulcers of all types, and in order to avoid damage to the periwound area frequent dressing is required.

Corns

Many patients with diabetes have improper footwear and according to a study done by Gayle et al., 39% of patients with diabetes who were attending a specialist diabetic clinic were reported wearing pointed toe shoes. Regular debridement in patients with diabetes, may reduce the incidence of subcutaneous bleeding, subsequent ulceration thereby avoiding the need for surgery. Therefore, the inclusion of corns is needed in the screening tool.

Dermatitis

Topical treatments and other sensitizers are a common cause of allergic dermatitis among patients with type II diabetes. A retrospective study conducted in Jordan in 2002 by Najdawi and Fa’ouri. Of 232 elderly patients with diabetes reported eczema/dermatitis as the commonest skin disorder seen (25.9% of cases). Another study in Turkey showed the prevalence of dermatitis to be 15.2%.

Fragility of the Skin

This is a common finding among elderly patients and worsened by autonomic neuropathy thereby making the patient susceptible to skin integrity breakdown and subsequent microbial invasion.

Shiny Skin and Loosing Hair

The risk of peripheral artery disease (PAD) is markedly increased among individuals with diabetes and accurate estimation of the prevalence of PAD in patients with diabetes is difficult as the condition may be often asymptomatic, pain perception may be altered by coexisting peripheral neuropathy and worst still, the presence of intermittent claudicating and absence of peripheral pulses, are non-sensitive diagnostic indicators. However studies utilizing the ankle-brachial index (ABI) showed the prevalence of PAD in patients with diabetes to be between 20% to 30%. In patients with peripheral arterial disease the skin may be smooth, cool and shiny with hair loss, and nails tend to be dystrophic or thickened.

Uncommon Conditions

Although some of the following conditions are rare, they may co-exist in patients with diabetes. These include but not limited to; verruca plantaris, psoriasis, hemosiderin deposition, naevi, moles, malignant melanoma, greenish discolored due to pseudomonas infection on top of tinea pedis.

Diabetes Specific Conditions

Healthcare practitioners must also be aware of other diabetes mellitus-specific conditions, including, granuloma annulare, necrobiosis lipoidica diabeticorum which occurs in 0.3-1.6% of patients with diabetes, granuloma annulare, diabetic dermopathy affecting 7% to 70% of diabetics, waxy skin syndrome, and bullous diabeticorum affecting 0.5% of those aged between 40-77 years old suffering from long standing diabetes and neuropathy.

Sensation

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<td>iv. Do they ever feel like insects are crawling on them?</td>
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The sensation items have omitted very essential elements including unsteadiness while walking and aching pain or tenderness in legs. These are essential components of the neuropathy disability score (NDS).

This review article may serve to encourage further scientific enquiry into wound assessment tools and more importantly advanced wound care products, where prescription and utilization has been largely influenced by drug companies for many decades with very few rigorous scientific data to support most of those products out there in the market.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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INTRODUCTION

Gouty tophi represent a symptom of chronic form of gout resulting from accumulation of monosodium urate crystals in tissues, which is the most prevalent form of inflammatory arthritis. The tophus represents a granulomatous inflammatory response to monosodium urate crystals. Women are less likely to have gout than men but they develop it in the postmenopausal years and have comorbidities such as renal disease, diabetes or concomitant use of diuretics more common as compared with men. We present two cases of gouty tophi.

CASE REPORTS

Case 1

A 66-year-old man presented with an intense joint pain and deformities on his toes (Figure 1). Furthermore, the patient had an additional lump in his left elbow. He had personal history of hypercholesterolemia and hypertriglyceridemia. He had elevated levels of uric acid a year ago but in treatment with allopurinol the levels had descended to normality; uric acid 3.33 mg/dL (normal range 3.5-7.2). Histological study was consistent with gouty tophi. He was referred to rheumatologist.

Case 2

A 84-year-old man with multiple co-morbidities such as dyslipidemia, hypertension and hyperuricemia, presented to us with multiple soft tissue masses over several metacarpals associated with severe joint deformities (Figure 2). He had not been treated regularly for gout. Laboratory tests included urea 78.8 mg/dL (normal range 17.1-49.2), uric acid levels of 9.98 mg/dL (normal range 3.5-7.2), creatinine 1.63 mg/dL (normal range 0.8-1.3). We establish diagnosis of gouty tophi and referred to his physician for appropriate treatment. The patient started therapy with allopurinol 100 mg daily with resolution of symptoms.

Figure 1: Gouty Tophi on the Right Toes.

Figure 2: Tophus on the Right Hand Associated with Severe Joint Deformities
DISCUSSION

The prevalence of gout and hyperuricemia is on the rise in developing countries probably related to population aging, alcohol intake, hypertension, obesity, metabolic syndrome and use of diuretics. The prevalence increases with age. Being male and black person are also risk factors. Gout is caused by the deposits of monosodium urate crystals (MSU) in the synovial fluid and other tissues and it is associated with hyperuricemia. Crystal deposition then triggers immune activation. Tophi are subcutaneous nodules comprised of aggregates of crystals in and around joints or soft tissues. Commonly affected sites are the first metatarsophalangeal joint (MTPJ), midtarsal joints, ankles, knees, fingers and ankles. It usually appears in chronic hyperuricemia but occasionally the patient may develop them without previous gouty arthritis episodes. Superficial tophi can lead to ulcerations of the overlying skin. Histopathological features include deposit of urate crystals surrounded by an intense inflammatory reaction of macrophages, lymphocytes and large foreign body giant cells. The birefringence of the crystals is a specific sign of urate crystals. Suboptimal management of gout has been shown.1-4

The diagnosis of an acute gout attack in the elderly can be a challenge. Management of gout must include a definitive diagnosis (clinical, and laboratory features, presence of tophi, ultrasound examination, and demonstration of MSU crystals in synovial fluid or in the tophus); a swift treatment of acute attacks, use of urate-lowering therapies for prevention and lifestyle advice (optimizing weight, restriction intake of purines-rich food and limiting alcohol consumption).5,6

Treatment of acute attacks includes non-steroidal anti-inflammatory drugs, low-dose colchicine regimen and oral, intramuscular or intraarticular corticosteroids. Allopurinol is the first-line medication for reducing serum uric acid. Probenecid, colchicine, other xanthine oxidase inhibitors as febuxostat may also be used as urate-lowering therapies (ULT). The 2012 American guidelines support ULT initiation during an acute attack of gout. ULT should be started at a low-dose, and the dose gradually increased. Despite the low levels of uric acid of the analysis of the patient is possible the presence of tophi and arthritis. A patient starting ULT are at risk of gout arthritis due to the deposit of acid uric crystals in joints. To avoid this arthritis is recommended a concomitant treatment based on colchicine or COX-2 inhibitors or low-dose prednisolone.6-8

CONCLUSIONS

The prevalence of gout increases with the population aging and it is associated with comorbidities. If no hyperuricemia treatment is given the disease may develop into chronic tophaceous gout involving soft tissues or joints. It is important for clinicians be able to diagnose and improve the quality of gout management.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

CONSENT

The authors have taken oral consent from the patients.

REFERENCES