BRITISH JOURNAL OF HOSPITAL MEDICINE

What you need to know about common skin problems in older adults

Cherry Choudhary[1]
ORCHID: 0000-0001-8350-3751

Georgios Kravvas[2]
ORCHID: 0000-0002-1924-0149

Howell T Jones[3]
ORCHID: 0000-0002-3348-0202

Author details can be found at the end of this article

Correspondence to:
Cherry Choudhary;
cherry.choudhary1@nhs.net

Abstract

Skin ageing is a multifaceted process impacted by both intrinsic and extrinsic factors. Drier and less elastic skin with declining sebum levels in older age makes ageing skin more vulnerable to various skin conditions, including infections, inflammatory dermatoses, and cancers. Skin problems are common among older adults due to the effects of ageing, polypharmacy and multimorbidity impacting not only physical health but wellbeing and quality of life. In the UK, older adults in geriatric medicine wards may present with various skin conditions. Hospitalised older individuals may have undiagnosed skin problems unrelated to their admission, making hospitalisation an opportunity to manage unmet needs. Asteatotic eczema, incontinence associated dermatitis, seborrhoeic dermatitis, chronic venous insufficiency, and cellulitis are common disorders clinicians encounter in the geriatric medicine wards. This article outlines the importance of performing comprehensive skin assessments to help diagnose and commence management for these common conditions.

Key words: Dermatology; Elderly; Geriatric; Older adults; Skin infection

Received: 12 November 2023; Revised: 16 January 2024; Accepted: 18 January 2024

Introduction

Skin ageing is a complex process influenced by both intrinsic and extrinsic factors. Intrinsic ageing, driven by time and genetics leads to reduced collagen production, giving rise to less elastic skin (Tobin, 2017). Extrinsic ageing is affected by environmental factors such as ultraviolet light exposure and lifestyle choices like smoking (Zhang and Duan, 2018).

The epidermis undergoes oxidative stress, with a marked decrease in keratinocyte proliferation, as well as a reduction of dermal hyaluronic acid within the extracellular matrix (Reszke et al, 2015). The transformations, are compounded by external factors, increase the vulnerability of skin to various conditions, such as infections, inflammatory dermatoses, and cancers (Michalak et al, 2021). Although a natural consequence of the ageing process, these skin changes can impact both physical health and overall wellbeing (Tobin, 2017).

In the UK, older people admitted to the hospital may have coexisting skin problems unrelated to their reason for admission. Unfortunately, up to 30% of skin conditions in older adults go undiagnosed due to multimorbidity, reduced mobility, and communication difficulties (Wey and Chen, 2010). Hospitalisation poses an opportunity to address these unmet dermatological needs.

We present a guide on how to manage some common skin problems that doctors could be faced with in geriatric medicine wards. Although there are many more prevalent conditions such as seborrhoeic keratoses, actinic keratoses, and basal cell carcinomas, this article covers conditions that have simple methods of management by non-specialist clinicians. It is crucial to manage these conditions timely. This may require a referral for an inpatient dermatology review for the optimisation of their management plan. This is especially necessary for frailer adults unable to attend outpatient appointments due to reduced mobility and transport barriers (MacLeod et al, 2014).

Asteatotic eczema

Asteatotic eczema (Figure 1), also known as eczema craquele and xerotic eczema, is characterised by dry, cracked, inflamed skin that typically affects the lower limbs (Wang and Li, 2022).

How to cite this article:
Choudhary C, Kravvas G, Jones HT. What you need to know about common skin problems in older adults. Br J Hosp Med. 2024. https://doi.org/10.12968/hmed.2023.0399

D (Distribution): symmetrical lower limb

C (Configuration): no obvious configuration.

M (Morphology): erythematous scaly and xerotic patches

Figure 1. Asteatotic eczema and the associated rash description. Reproduced with permission from DermnetNZ (2014).

The interplay of reduced lipids, and the altered ratio of natural moisturising factors, ceramides, cytokines, and metabolic products results in compromised integrity of the stratum corneum (Amin et al, 2021). Asteatotic eczema is a clinical diagnosis but skin swabs are warranted in cases of suspected superimposed infection (Tétart and Joly, 2020).

Treating asteatotic eczema requires restoring the impaired skin barrier through:

- Topical emollients: Regular application of creams or ointments helps replenish the compromised skin barrier. These should be applied frequently and generously, keeping in mind the fall risk due to their slippery nature and their flammability.
- Minimising external injury to the skin: The use of fragrance-free soap substitutes should be encouraged. Exposure to water, through housework or excessive washing, can exacerbate trans epidermal water loss and irritation.
- Quenching inflammation: Topical steroids can be used in conjunction with emollients and soap substitutes to reduce inflammation and alleviate symptoms. A topical steroid of appropriate potency (such as betamethasone valerate 0.1% ointment) should be used until inflammation has been adequately controlled. Long-term use of topical calcineurin inhibitors (such as tacrolimus 0.1% ointment) can be used to control recurrences (Ha et al, 2020).

Relevance to the older adults:

- Ageing skin: Ageing results in reduced sebum production and compromised skin barrier, making older adults more prone to this condition.
- Medications: Multimorbidity and polypharmacy, such as with statins, antihistamines, or diuretics, can exacerbate skin dryness.
- Mobility challenges: Limited movement can prevent older adults from engaging in a skincare routine.
- Pruritus: Itchiness can be debilitating for older people, impacting their quality of life. Furthermore, breaks in the barrier function of the skin from excoriation marks put patients at a higher risk of infections.

Incontinence-associated dermatitis

Incontinence-associated dermatitis (Figure 2) is a form of contact irritant dermatitis that is prevalent among older adults who suffer from incontinence (urinary, faecal or double). It is a common condition and affects as many as 20% of older hospitalised patients (Banharak et al, 2021). It is characterised by inflammation and irritation to the skin due to friction and prolonged exposure to moisture, in the form of urine or faeces.

Incontinence-associated dermatitis is primarily diagnosed through a clinical assessment of the perianal and genital skin. It commonly presents as erythema, oedema, maceration, and dryness, with sparing of the skin folds. Extra diagnostic tests are not usually warranted unless superadded bacterial or yeast infections are suspected by the presence of pustules or satellite lesions (Banharak et al, 2021).

D (Distribution): well defined intertriginous genital and perianal rash.

C (Configuration): no obvious configuration.

M (Morphology): erythematous plaque with slight scaling.

Figure 2. Incontinence Associated dermatitis and the associated rash description. Reproduced with permission from DermnetNZ (2017).

Prompt treatment of incontinence-associated dermatitis is warranted to alleviate discomfort, such as:

- Maintenance of good genital hygiene: Loose fitting clothing is essential to decrease friction and optimise air exposure to aid healing. Regular pad changes are essential to minimise exposure to moisture and other irritants. Addressing the underlying incontinence should also be attempted where possible.
- Maintaining the skin barrier: Keeping the intertriginous area clean using soap substitutes, as well as avoiding harsh soaps and wet wipes, helps to maintain the natural skin barrier. This can be supported by applying barrier preparations containing zinc oxide or petroleum jelly.

Relevance to older adults:

- Increased prevalence: Many older people experience incontinence due to age-related genitourinary pathology, polypharmacy, and cognitive impairment.
- Impaired skin barrier: Ageing skin is drier and less resilient, making it prone to damage from moisture and irritants.
- Frailty: Older adults with reduced mobility rely on support for regular pad changes, thus a rigorous schedule is crucial.

Seborrhoeic dermatitis

Seborrhoeic dermatitis (Figure 3) is a chronic skin condition frequently seen in older adults. It classically presents with erythema and flaking affecting areas such as the scalp, face, and chest (Wang and Li, 2022).

Underlying immunocompromise, such as due to HIV or diabetes, is linked to the development of seborrhoeic dermatitis and the cause of this should be sought (Dessinioti and Katsambas, 2013).

Treatment strategies to control symptoms involve:

- General hygiene: The use of soap substitutes and avoiding vigorous scrubbing should be encouraged to minimise irritation (Reszke et al, 2015).
- Topical antifungals: Antifungal preparations containing ingredients like ketoconazole are the mainstay of treatment. Additionally, the combination of keratolytic agents (such as salicylic acid) and coal tar can offer additional improvement.
- Topical corticosteroids: Low-potency topical steroids (such as 1% hydrocortisone cream) are commonly given for application to the affected areas to reduce inflammation and pruritus.
- Topical calcineurin inhibitors: Cases that are resistant to short courses of topical steroids, or are prone to frequent recurrences, can be treated with long-term use of topical tacrolimus 0.1% ointment or pimecrolimus 1% cream (Alsmeirat et al, 2022)

D (Distribution): classical distribution surrounding the margins of the scalp.

C (Configuration): no obvious configuration.

M (Morphology): erythematous scaly itchy patches with flaking.

Figure 3. Seborrheic dermatitis and the associated rash description. Reproduced with permission from DermnetzNZ (2022).

CEAP Classifcation:

C4B: Bilateral symmetrical lipodermatosclerosis with white atrophy

Figure 4. Chronic venous insufficiency and the associated rash description. Reproduced with permission from DermnetNZ (2021).

Relevance to older adults:

- Increased prevalence: Older people are more susceptible due to the altered composition of stratum corneum, making it drier and more fragile.
- Chronic nature: Seborrhoeic dermatitis tends to be recurrent, necessitating long-term judicious therapy.

Chronic venous insufficiency

Chronic Venous Insufficiency (CVI), also known as venous eczema, or stasis dermatitis (Figure 4), is an underdiagnosed and undertreated disorder that occurs due to the pooling over blood in the lower legs. It predominantly affects older adults due to defects in the valves of the deep venous system. Chronic Venous Insufficiency can lead to symptoms such as pain, leg swelling, varicose veins, and complications like venous ulceration (Nicolaides and Labropoulos, 2019).

Diagnosing CVI primarily involves a detailed examination of the limbs, coupled with thorough history taking for risk factors. A duplex ultrasound scan can be used to visualise the venous system, to delineate blood flow and assess venous reflux (Necas, 2010). Longstanding undertreated CVI can lead to lipodermatosclerosis. The skin can appear swollen, red, and inflamed and feel uncomfortable. Unlike cellulitis, acute lipodermatosclerosis commonly presents bilaterally. In chronic lipodermatosclerosis, the skin can thicken, become hyperpigmented, and develop distal narrowing known as ‘upside-down champagne bottle’ appearance (Nicolaides and Labropoulos, 2019).

Treatment of CVI predominantly focuses on improving venous return with strategies like:

- Lifestyle modifications: Overweight older people should be encouraged to regularly exercise to lose weight (Wang and Li 2022). Additionally, elevating legs and using compression stockings can enhance venous return. Cochrane trials have demonstrated that high-compression hosiery is effective in the prevention of venous ulcers. Unfortunately, they often have reduced uptake and older adults are disinclined to comply with them long-term due to contraindications like allergies, peripheral arterial disease, or lifestyle factors such as discomfort and poor mobility to put them on appropriately (Nelson and Bell-Syer, 2014).
- Topical preparations: Regular use of emollients and soap substitutes should be utilised along with lifestyle modification in order to improve the barrier function of the skin and reduce itching. Courses of potent and super-potent topical steroids can be used to reduce inflammation and are frequently utilised in the treatment of acute lipodermatosclerosis (Nicolaides and Labropoulos 2019).
- Minimally invasive and surgical interventions: Longstanding venous insufficiency is frequently characterised by the presence of varicose veins or corona phlebectatica paraplantaris (fan-shaped intradermal telangiectasias on the medial or lateral aspects of the foot (Uhl et al. 2012). The appearance of these can be corrected using sclerotherapy, endovenous laser treatment and radiofrequency ablation, and surgical striping or ligation. (Wittens et al. 2015).

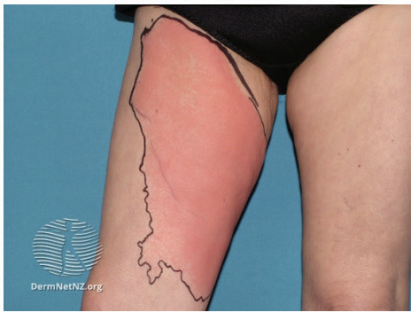
Relevance to older adults:

- Increased susceptibility: Age-related changes in the venous system, increasing obesity rates and reduced muscle tone make older adults more prone to CVI and its complications.
- Multimorbidity: Older people may have various risk factors such as hypertension, diabetes mellitus, exacerbating symptoms, and complicating treatment.
- Quality of life impact: CVI can cause substantial discomfort, which can lead to severe complications such as venous ulcers, that can be debilitating

Cellulitis

Cellulitis (Figure 5) is a common bacterial skin infection that affects the subcutaneous layer of the skin and the underlying tissues. It is characterised by unilateral erythema, warmth, tenderness, and swelling. The risk of developing cellulitis is higher in those with obesity, immunocompromise, and multimorbidity (Kumar et al, 2020).

Clinical scores such as the 'ALT-70' (Tables 1, 2) have been shown to be highly predictive of lower limb cellulitis (Raff et al, 2017). Blood markers such as white cell count, and C-reactive protein (CRP) are helpful in detecting systemic inflammation (Raju et al, 2008). Microbiological tests such as wound swabs for microscopy, culture and sensitivity are used to determine the causative organisms and their resistance to antibiotics. Imaging techniques, such as ultrasound, computerised tomography or Magnetic Resonance Imaging are helpful in detecting deep tissue involvement, such as in the case of necrotising fasciitis. It is essential to differentiate cellulitis from other skin conditions that present with redness of a limb, such as deep vein thrombosis, as they require different treatment strategies (Kumar et al, 2020).



D (Distribution): well demarcated unilateral plaque

C (Configuration): no obvious configuration.

M (Morphology): erythematous hot and swollen plaque with tenderness

Figure 5. Bacterial cellulitis and the associated rash description. Reproduced with permission from DermnetNZ (2016).

Table 1. ALT-70 criteria for score. (Raff et al. 2017)

Criteria	Definition	Score
Asymmetry	Unilateral lower leg involvement	+3
Leukocytosis	White cell count of more than 10×10^9/L	+1
Tachycardia	Heart rate of 90 beats per minute or higher	+1
Age	70 years or older	+2

Table 2. ALT-70 score. (Raff et al. 2017)

Score	Outcome
5, 6, 7	Treat as cellulitis
3, 4	Consult dermatology or infectious diseases for advice
0, 1, 2	Reassess diagnosis

Treatment options may incorporate:

- Antibiotics: The mainstay treatment for bacterial cellulitis is antibiotics. The choice and route of antibiotics depends on the severity of the infection, antibiotic sensitivities, and the patient's allergy status (Kumar et al, 2020).
- Elevation and analgesia: Elevating the affected limb promotes lymphatic drainage and can help reduce swelling and discomfort. If pain is present, this should be managed with adequate analgesia.
- Management of underlying morbidities: Optimising underlying medical conditions and glycaemic control is essential to improve wound healing and reduce the risk of complications (Kumar et al, 2020). It is also crucial to identify the port of entry of the causative agent to reduce future reinfection. Any ulcers should be adequately cleaned and dressed. The presence of fungal infections often causes micro-abrasions to the skin, and should be adequately treated with oral or topical antifungals (Raju et al, 2008)

Relevance to older adults:

- Increased susceptibility: Older skin is more fragile making it more susceptible to trauma.
- Multimorbidity: Common chronic medical conditions such as diabetes and medications such as immunosuppressants can impair wound healing, and reduce skin integrity.

Even though rarely life-threatening, skin problems in older adults can nevertheless lead to significant morbidity and lower quality of life. Furthermore, most skin problems in older people can be diagnosed clinically and optimised through simple measures. The presentation of an older person to a clinician, even when not directly due to a skin-related problem, should thus be used as an opportunity to assess and treat any underlying cutaneous pathologies.

Key Points

- Skin problems are common in older people due to age-related changes in skin architecture and function.
- Due to compromised immune systems and underlying chronic health conditions, older people are more prone to fungal and bacterial skin infections.
- Skin diseases can often be identified clinically through a thorough history and systematic skin examination.
- A skin biopsy should be considered in certain scenarios of diagnostic uncertainty.
- Patients and caregivers should be provided information about adequate skincare, and skin self-monitoring advice.
- Skin diseases can be complicated by underlying comorbidities, necessitating tailored treatment plans.

Relevance to the IMT Curriculum Checklist

1. Managing patients in an outpatient clinic, ambulatory or community setting, including management of long-term conditions.
2. Managing medical problems in patients in other specialities and special cases.

Author details

[1]Department of Medicine for the Elderly, University College London Hospitals NHS Foundation Trust, London, UK

[2]Department of Dermatology, University College London Hospitals NHS Foundation Trust, London, UK

[3]Department of Healthcare Services for Elderly People, Royal Free Hospital, Royal Free London NHS Foundation Trust, London, UK

Availability of Data and Materials

All data included in this study are available upon request by contact with the corresponding author. Available at cherry.choudhary1@nhs.net.

Author Contributions

CC, HTJ and GK decided the conception and design of the paper. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript. All authors have participated sufficiently in the work and agreed to be accountable for all aspects of the work.

Ethics Approval and Consent to Participate

Not applicable.

Acknowledgment

Not applicable.

Funding

Not applicable.

Conflicts of interest

The authors declare that there are no conflicts of interest.

References

Alsmeirat O, Lakhani S, Egaimi M et al. The efficacy and safety of pimecrolimus in patients with facial seborrheic dermatitis: a systematic review of randomized controlled trials. Cureus [Preprint]. 2022. https://doi.org/10.7759/cureus.27622

Amin R, Lechner A, Vogt A et al. Molecular characterization of XEROSIS CUTIS: a systematic review. Plos One. 2021;16(12):e0261253. https://doi.org/10.1371/journal.pone.0261253

Banharak S, Panpanit L, Subindee S et al. Prevention and care for incontinence-associated dermatitis among older adults: a systematic review. J Multidisciplinary Healthc. 2021;14(14):2983–3004. https://doi.org/10.2147/jmdh.s329672

Bhola NG. Seborrhoeic Dermatitis DermNet NZ. 2022. https://dermnetnz.org/topics/seborrhoeic-dermatitis (accessed 8 March 2024)

Coulson I. Venous insufficiency DermNet NZ. 2021. https://dermnetnz.org/topics/venous-insufficiency (accessed 8 March 2024)

Dessinioti C, Katsambas A. Seborrheic dermatitis: etiology, risk factors, and treatments. Clin Dermatol. 2013;31(4):343–351. https://doi.org/10.1016/j.clindermatol.2013.01.001

Ha D-L, Park G-H, Kim H-S et al. Clinical and laboratory differences between early-onset and late-onset adult atopic dermatitis. J Cutan Med Surg. 2020;24(4):360–366. https://doi.org/10.1177/1203475420921385

Kumar M, Jong Ngian VJ, Yeong C et al. Cellulitis in older people over 75 years – are there differences? Ann Med Surg. 2020;49:37–40. https://doi.org/10.1016/j.amsu.2019.11.012

MacLeod KE, Ragland DR, Prohaska TR et al. Missed or delayed medical care appointments by older users of Nonemergency Medical Transportation. GERONT. 2014;55(6):1026–1037. https://doi.org/10.1093/geront/gnu002

Michalak M, Pierzak M, Kręcisz B et al. Bioactive compounds for skin health: a review. Nutrients. 2021;13(1):203. https://doi.org/10.1684/10.3390/nu13010203

Mitchell G. Incontinence-associated dermatitis DermNet NZ. 2019. https://dermnetnz.org/topics/incontinence-associated-dermatitis (accessed 8 March 2024)

Necas M. Duplex ultrasound in the assessment of lower extremity venous insufficiency. Australas J Ultrason Med. 2010;13(4):37–45. https://doi.org/10.1002/j.2205-0140.2010.tb00178.x

Nelson EA, Bell-Syer SE. Compression for preventing recurrence of venous ulcers. Cochrane Database Syst Rev. 2014;2014(9). https://doi.org/10.1002/14651858.cd002303.pub3

Nicolaides AN, Labropoulos N. Burden and suffering in chronic venous disease. Adv Ther. 2019;36(S1):1–4. https://doi.org/10.1007/s12325-019-0882-6

Oakley A. Cellulitis DermNet NZ. 2016. https://dermnetnz.org/topics/cellulitis (accessed 8 March 2024)

Oakley A. Eczema craquele DermNet NZ. 2014. https://dermnetnz.org/topics/asteatotic-eczema (accessed 8 March 2024)

Raff AB, Weng QY, Cohen JM et al. A predictive model for diagnosis of lower extremity cellulitis: a cross-sectional study. J Amer Acad Dermatol. 2017;76(4):618–625.e2. https://doi.org/10.1016/j.jaad.2016.12.044

Raju S, Tackett P, Neglen P. Spontaneous onset of bacterial cellulitis in lower limbs with chronic obstructive venous disease. Eur J Vasc Endovasc Surg. 2008;36(5):606–610. https://doi.org/10.1016/j.ejvs.2008.03.015

Reszke R, Pełka D, Walasek A et al. Skin disorders in elderly subjects. Int J Dermatol. 2015;54(9). https://doi.org/10.1111/ijd.12832

Tétart F, Joly P. Eczema in elderly people. Eur J Dermatol. 2020;30(6):663–667. https://doi.org/10.1684/ejd.2020.3915

Tobin DJ. Introduction to skin aging. J Tissue Viabil. 2017;26(1):37–46. https://doi.org/10.1016/j.jtv.2016.03.002

Uhl J-F, Cornu-Thenard A, Satger B, Carpentier PH. Clinical analysis of the corona phlebectatica. J Vasc Surg. 2012;55(1):150–153. https://doi.org/10.1016/j.jvs.2011.04.070

Wang X, Li L-F. Clinical features of eczema and dermatitis in the elderly: a cross-sectional study in mainland China. Eur J Inflamm. 2022;20:205873922110697. https://doi.org/10.1177/20587392211069758

Wey S-J, Chen D-Y. Common cutaneous disorders in the elderly. J Clin Gerontol Geriatr. 2010;1(2): 36–41. https://doi.org/10.1016/j.jcgg.2010.10.010

Wittens C, Davies AH, Bækgaard N et al. Editor's choice - management of chronic venous disease: clinical practice guidelines of the European Society for Vascular Surgery (ESVS). Eur J Vasc Endovasc Surg. 2015;49(6):678–737. https://doi.org/10.1016/j.ejvs.2015.02.007

Zhang S, Duan E. Fighting against skin aging. Cell Transplant. 2018;27(5):729–738. https://doi.org/10.1177/0963689717725755