Wound Management Dermatological Issues v2023.3

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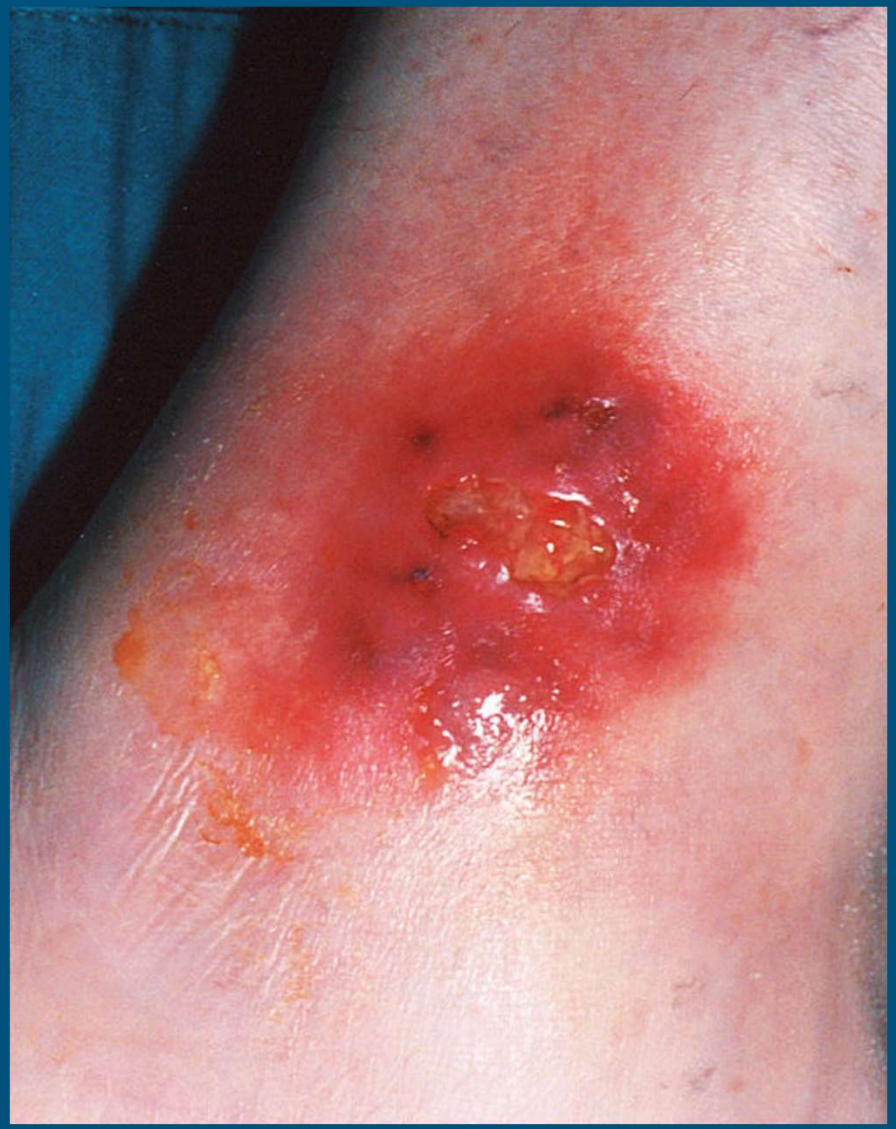
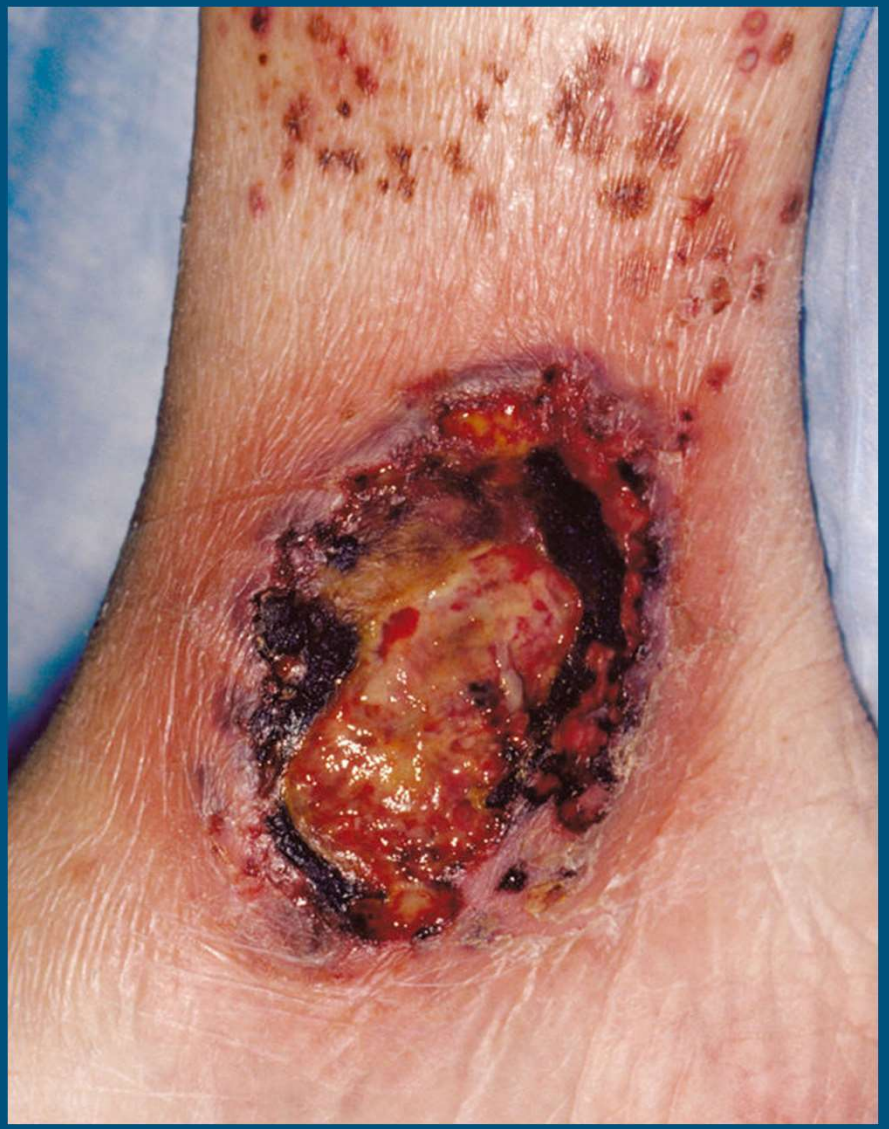
- Difficult & rare cases
- Hospital admission & multidisciplinary approach

Groups

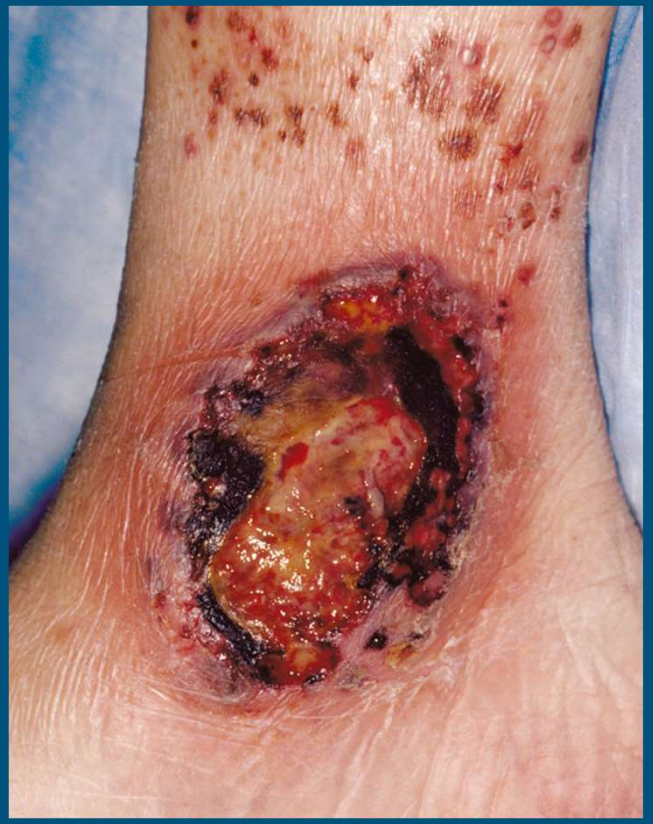
- Autoimmune (autoimmune disorders, cancer, infection, drug, unknown)
- Infection
- Cancer
- Vaso-occlusive
- Bite
- Artefact

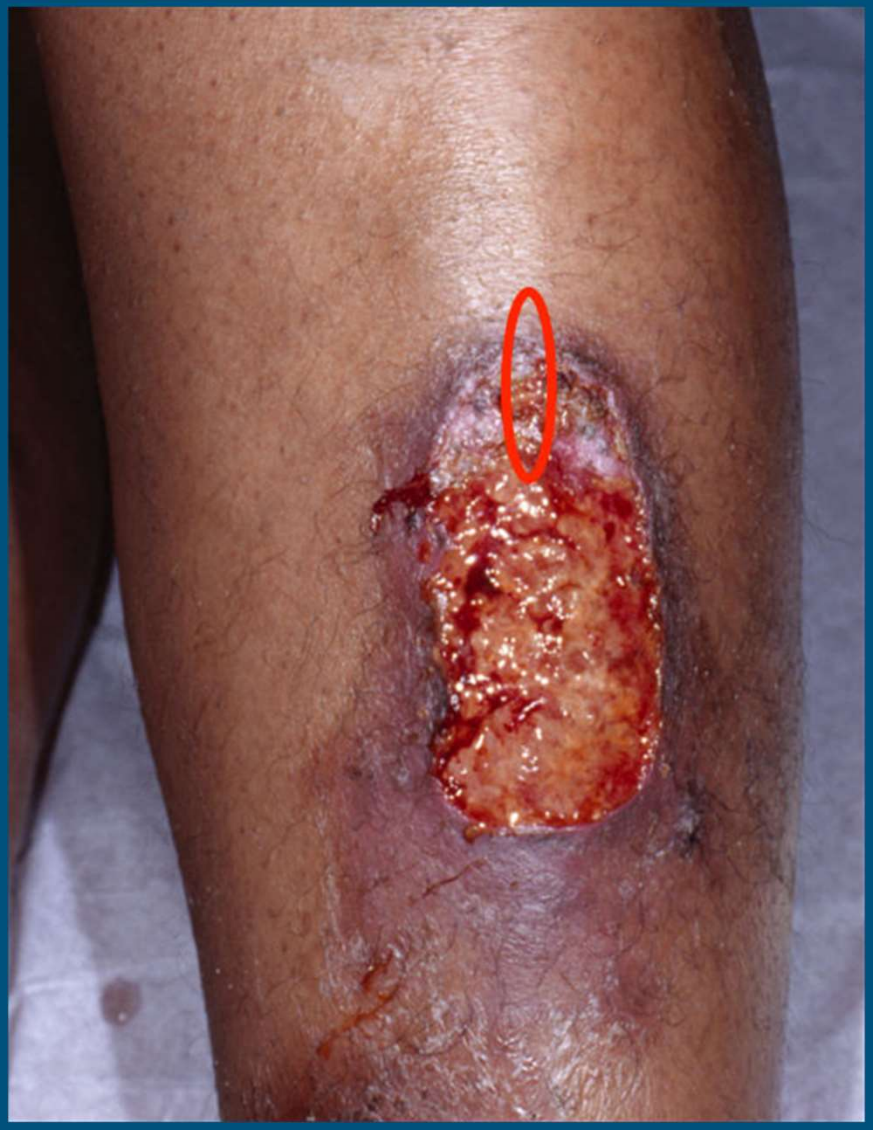




Pyoderma gangrenosum (PG)

- Autoimmune (inflammatory)- diagnosis of exclusion (infection)
- Pustules or haemorrhagic bulla > necrotic ulcer + violaceous, undermined margin + bright red, violaceous halo > purulent coating
- Pathergy (invocation of lesions by trauma)
- Fever, pain
- 50% unknown
- Autoimmune (IBD, RA)
- Cancer (myeloma, leukemia, lymphoma)





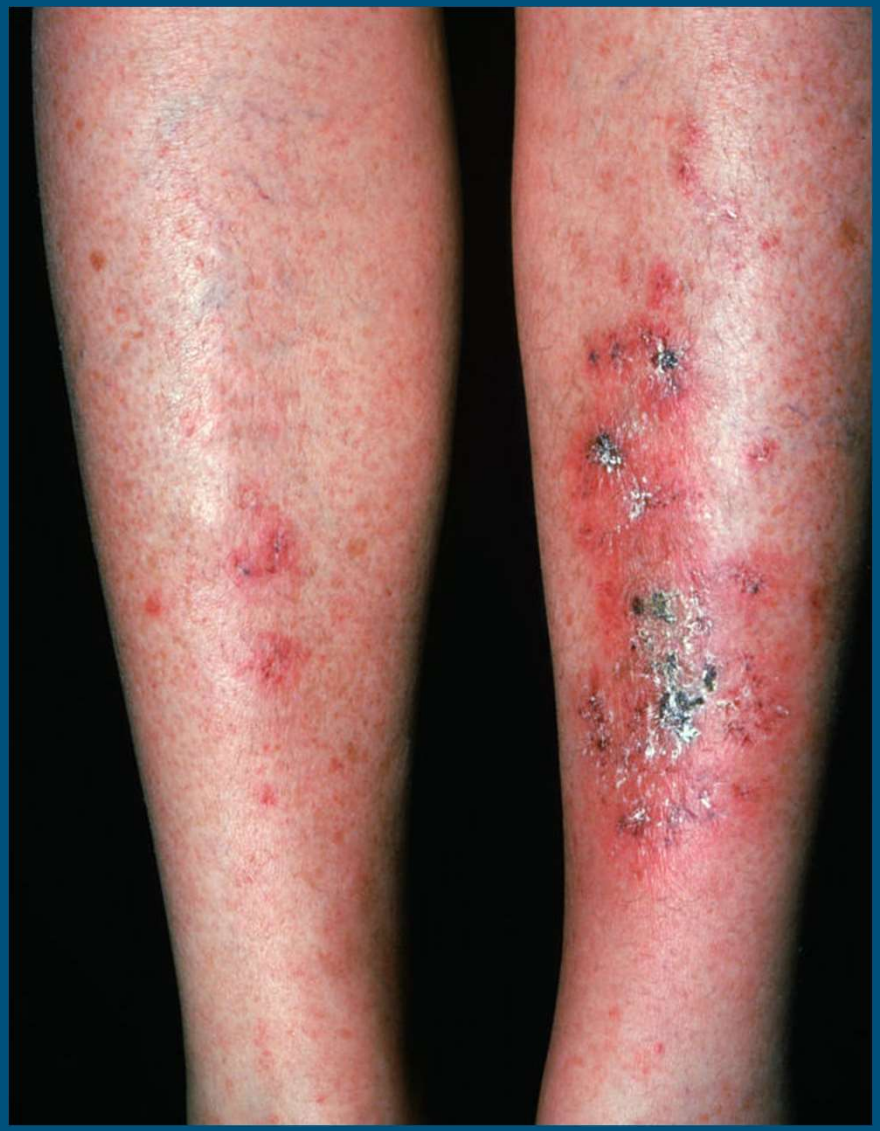
Incisional skin biopsy from proximal edge for histology (formalin) and cultures (saline soaked gauze) (bacteria, atypical mycobacteria, deep fungi), PCR

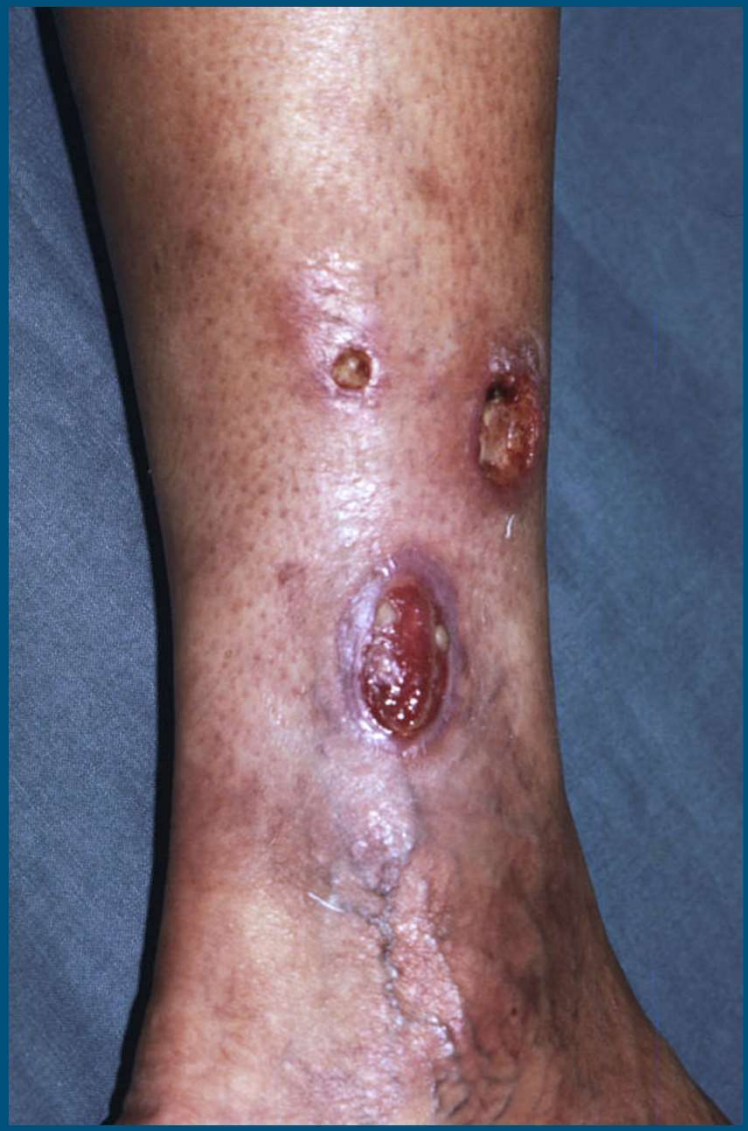
Ix

- FBE, ELFT, MSU, ANA, antiphospholipid antibody, ANCA, RF, serum / urine protein electrophoresis

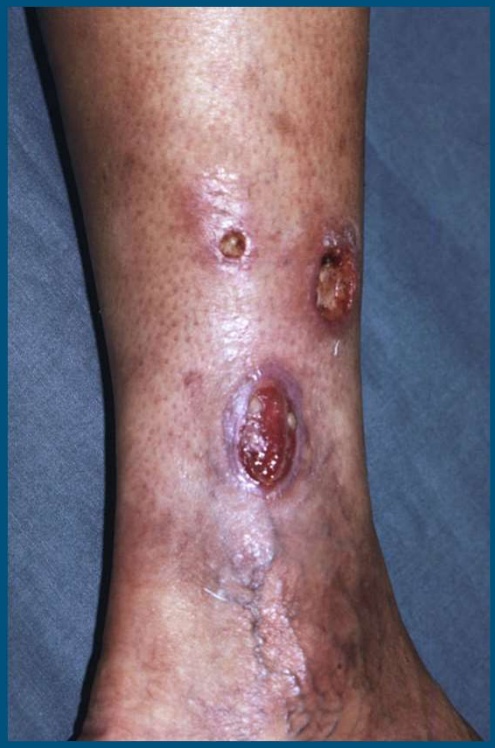
Rx

- Wound care, pain relief, avoid debridement / skin graft
- Treat underlying medical condition
- Topical steroid under occlusion / topical tacrolimus / intralesional steroid
- Prednisone 0.5-2 mg/kg/day, taper over weeks to months
- Prednisone + dapsone / minocycline / cyclosporin / methotrexate / MMF
- IV pulsed methylprednisolone 1-5 days
- Biologics (infliximab, adalimumab)
- IVIG

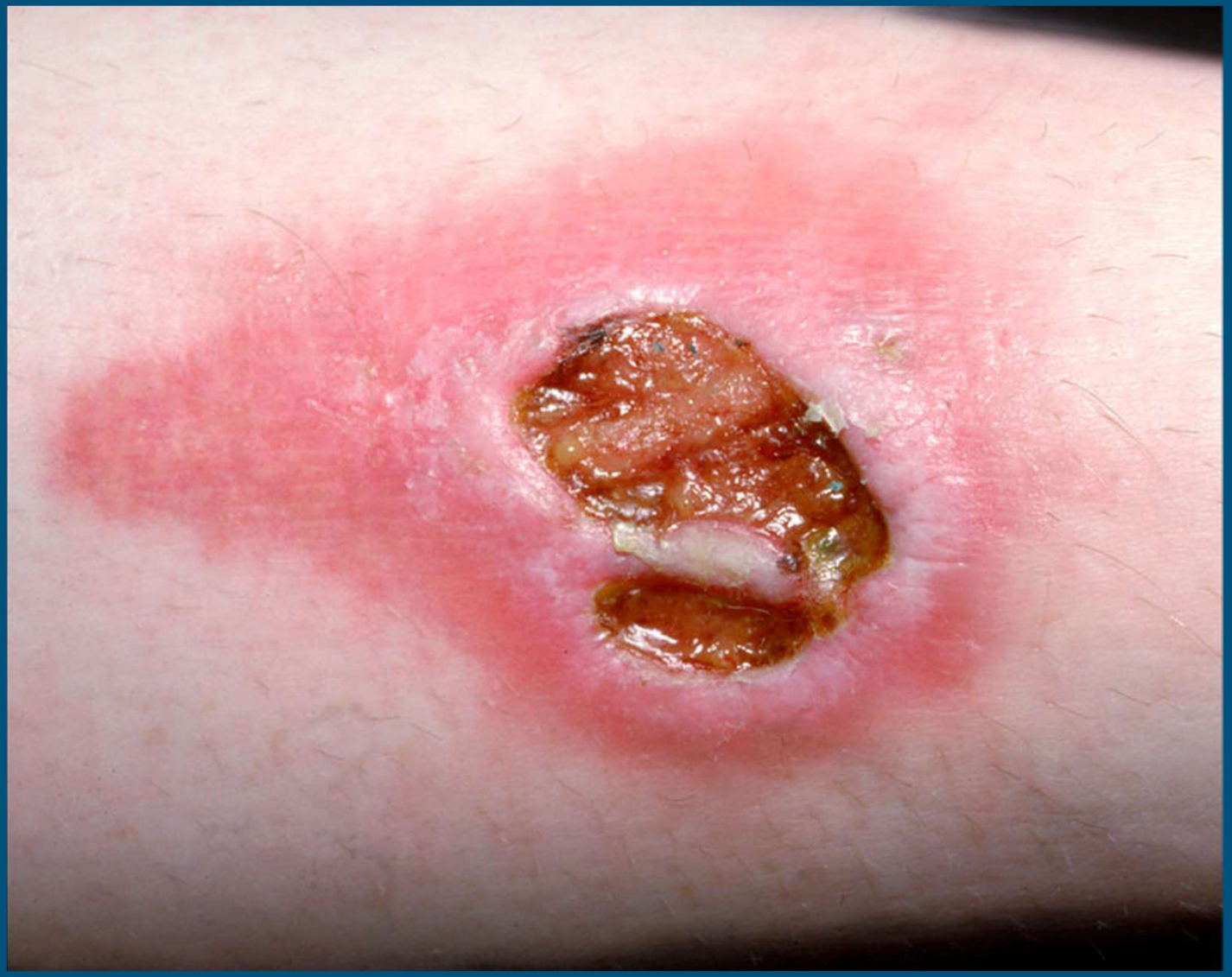




Vasculitis

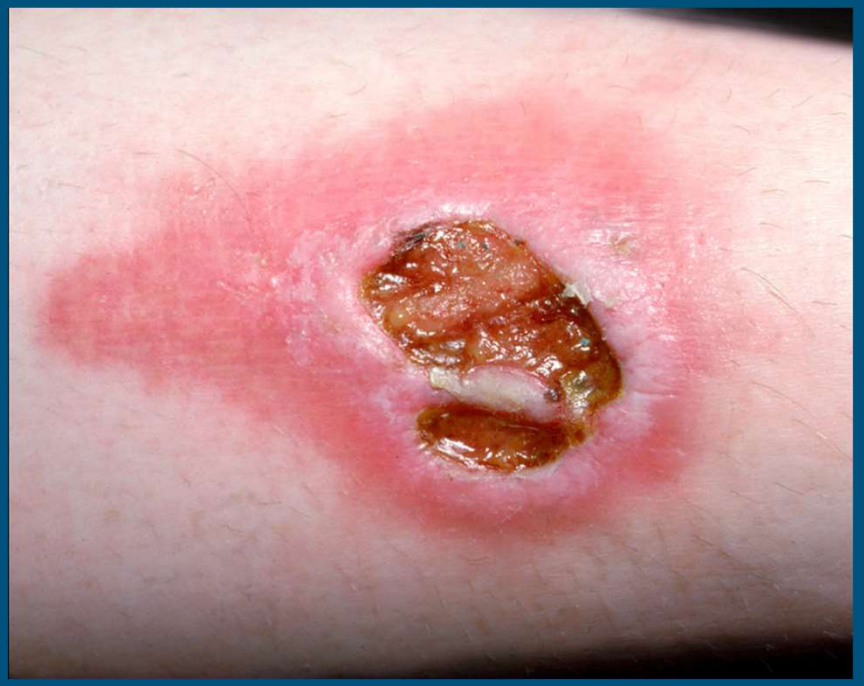


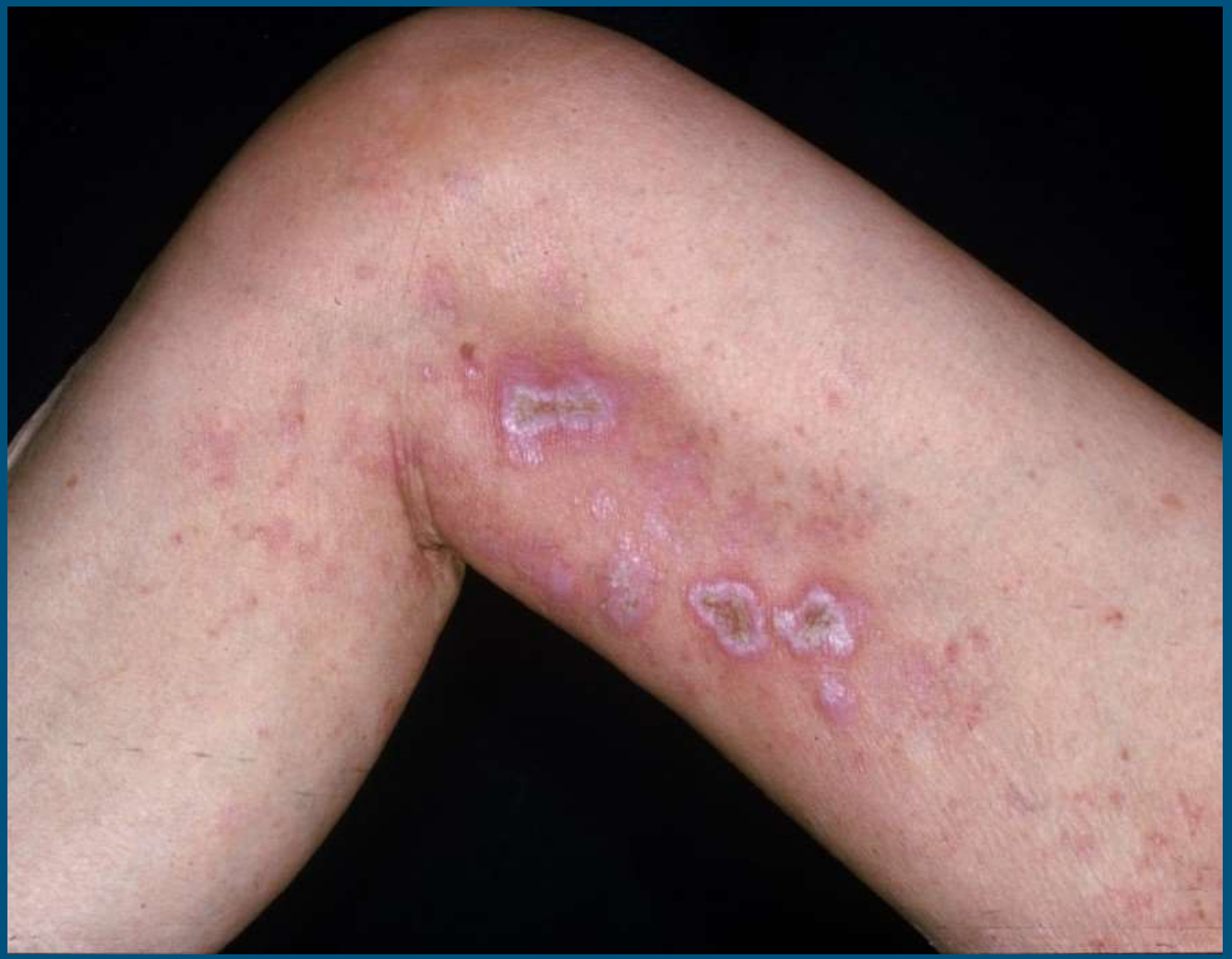
- Small vessel (leukocytoclastic vasculitis)
- Medium vessel (polyarteritis nodosa)
- Drug (antibiotic, NSAID, diuretic)
- Infection (strep, EBV, hepatitis, HIV, Tb)
- Cancer
- Autoimmune (IBD, SLE, Sjogren, RA)
- Biopsy from early lesions +/- direct immunofluorescence for IgA vasculitis
- Rx. Anti-inflammatory (colchicine, dapsone) or immunosuppressant



Necrobiosis Lipoidica (NL)

- Chronic granulomatous disorder
- Most patients have DM (11-65%)
- Incidence of NL in DM is low (0.3-1.2%)
- ⅓ ulcerate, usually traumatic
- SCC in chronically ulcerated lesions
- Topical steroids / tacrolimus / intralesional steroid
- (Aspirin, Trental, hyperbaric O2)
- Hydroxychloroquine
- Cyclosporin, mycophenolate, infliximab



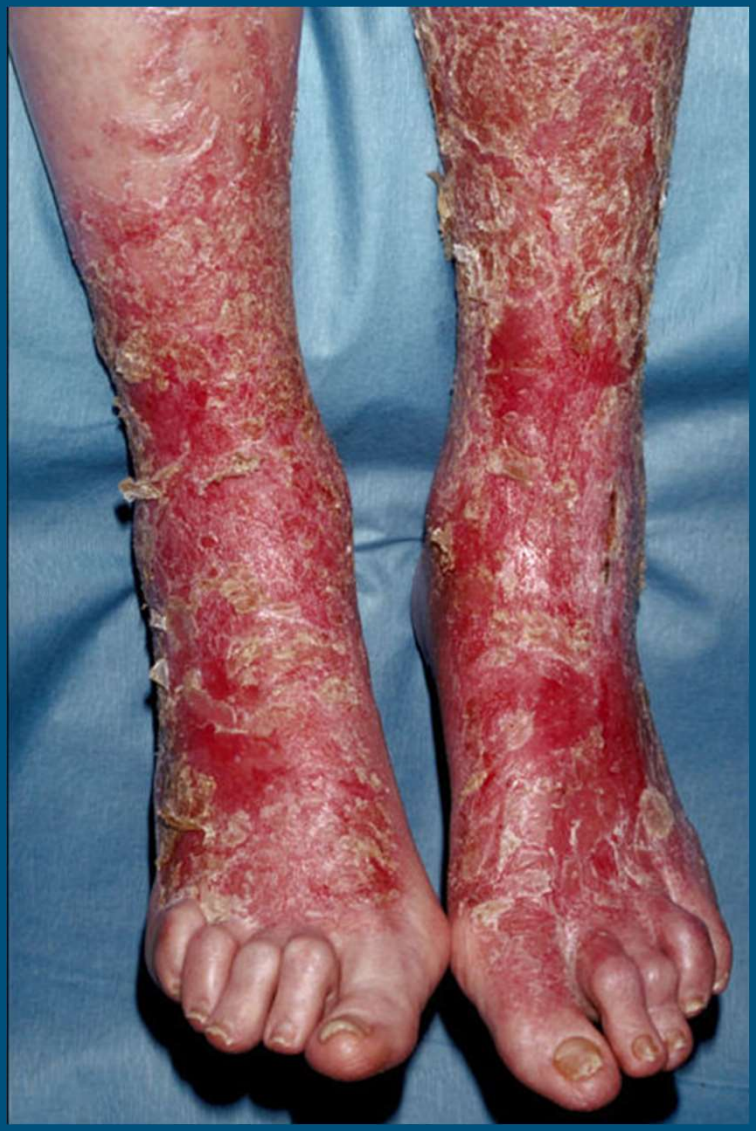


Drug-induced Skin Ulcers - 1/2

- Hydroxyurea: 9% (> 1gram/day for at least a year – may occur after therapy stopped) – painful leg ulcers similar to venous stasis
- ATRA (all-trans-retinoic-acid) – chemotherapy – scrotal ulcers (small/painless)
- Methotrexate – within days/weeks –sites of former psoriasis plaques - burning ulcers – oral (?leukopenia)
- Beta-interferon – inoculation site – painful ulcer
- Antivirals - lamivudine (Hep B) – foscarnet (herpes) – painful genital ulcers > oral

Drug-induced Skin Ulcers - 2/2

- Kinase inhibitors for cancer – sinutinib (painful leg ulcers) – imatinib (painful oral ulcers)
- Nicorandil - anti-angina – weeks/months – painful oral ulcers (perianal-skin)
- Nicolau syndrome: Medications injected whilst cold / crystals remain – relatively painless
- Illicit drug use: Cocaine - opiates



Allergic contact dermatitis

Australian Baseline Series

Order	Allergen Name	Dilution	Location
1	Nickel sulfate	5.0 pet	ABS 1
2	Balsam Peru	25.0 pet	ABS 2
3	Colophony	20.0 pet	ABS 3
4	Germall II (Diazolidinylurea)	2.0 pet	ABS 4
5	4-Phenylenediamine base (PPD)	1.0 pet	ABS 5
6	Mercaptobenzothiazole (MBT)	2.0 pet	ABS 6
7	Formalin	1.0 aq	ABS 7
8	Potassium dichromate	0.5 pet	ABS 8
9	Lanolin alcohol (Wool alcohol)	30.0 pet	ABS 9
10	Epoxy resin (araldite)	1.0 pet	ABS 10
11	Hydroperoxides of linalool	1.0 pet	ABS 11
12	Neomycin sulfate	20.0 pet	ABS 12
13	Cobalt chloride	1.0 pet	ABS 13
14	Germall 115 (Imidazolidinylurea)	2.0 pet	ABS 14
15	Paraben mix	12.0 pet	ABS 15
16	Thiuram mix	1.0 pet	ABS 16
17	Mercapto mix	2.0 pet	ABS 17
18	Fragrance mix	8.0 pet	ABS 18
19	Black rubber mix	0.6 pet	ABS 19
20	CI+Me-isothiazolinone (Kathon CG)	0.02 aq	ABS 20
21	Cocamidopropyl betaine	1.0 aq	ABS 21
22	Sesquiterpene lactone mix	0.1 pet	ABS 22
23	Fragrance mix II	14.0 pet	ABS 23
24	4-tert-Butylphenol formaldehyde resin (PTBP)	1.0 pet	ABS 24
25	Toluenesulfonamide formaldehyde resin (Tol SFR)	10.0 pet	ABS 25
26	Dowicil 200 (Quaternium 15)	1.0 pet	ABS 26
27	Tixocortol-21-pivalate	1.0 pet	ABS 27
28	Benzocaine	5.0 pet	ABS 28
29	Budesonide	0.1 pet	ABS 29
30	Propylene glycol	5.0 pet	ABS 30
31	Benzyl alcohol	10.0 SOF	ABS 31
32	Tea Tree Oil (oxidized)	5.0 pet	ABS 32
33	Cetyl stearyl alcohol	20.0 pet	ABS 33
34	Compositae Mix	5.0 pet	ABS 34
35	4-Chloro-3-cresol (PCMC)	1.0 pet	ABS 35
36	Basic Red 46	1.0 pet	ABS 36
37	Chloroacetamide	0.2 pet	ABS 37
38	methylprednisolone aceponate	1.0 pet	ABS 38
39	Mixed Dialkyl Thiourea	1.0 pet	ABS 39
40	Coconut diethanolamide	0.5 pet	ABS 40
41	DMDM Hydantoin	2.0 aq	ABS 41
42	Carba mix	3.0 pet	ABS 42
43	Hydroperoxides of Limonene	0.3 pet	ABS 43
44	Benzophenone 3 (2-hydroxy-4-methoxy-benzophenone)	10.0 pet	ABS 44
45	Benzophenone 4 (2-hydroxy-4-methoxy-benzophenon-5-sulfonic acid)	2.0 pet	ABS 45
46	Benzalkonium chloride	0.1 aq	ABS 46
47	Hydroxyisohexyl 3Cyclohexene Carboxaldehyde (Lyral)	5.0 pet	ABS 47
48	Textile dye mix	6.6 pet	ABS 48
49	Amerchol L 101	50.0 pet	ABS 49
50	Betamethasone -17, 21 dipropionate (Diprosone ointment)	1.0 pet	ABS 50
51	Bufexamac	5.0 pet	ABS 51
52	2-Ethylhexyl-4-methoxycinnamate (Octinoxate)(Parsol MCX, Escalol 557)	10.0 pet	ABS 52
53	4-Chloro-3-xylenol (PCMX)	1.0 pet	ABS 53
54	2-Bromo-2-nitropropane-1,3-diol (Bronopol)	0.5 pet	ABS 54
55	Betamethasone-17-valerat	1.0 pet	ABS 55
56	2-Hydroxyethyl methacrylate	2.0 pet	ABS 56
57	Triamcinolone acetonide	1.0 pet	ABS 57
58	Lidocaine hydrochloride	15.0 pet	ABS 58
59	Iodopropynyl butyl carbamate	0.2 pet	ABS 59
60	methylisothiazolinone	0.2aq	ABS 60

skin&cancer foundationvictoria

Contact Allergen Bank Australia

Skin & Cancer Foundation

80 Drummond St

CARLTON VIC 3053

LEG ULCER SERIES

Order	Allergen Name	Dilution	Location
1	Amerchol L 101	50.0 pet	ABS 49
2	Fusidic acid sodium salt	2.0 pet	Med/s 29
3	Chlorhexidine digluconate	0.5 aq	An/Sep/s 4
4	Benzalkonium chloride	0.1 aq	ABS 46
5	Nitrofurazone	1.0 pet	Med/s 6
6	Bacitracin	5.0 pet	Med/s 7
7	Cetyl stearyl alcohol	20.0 pet	ABS 33
8	BHT (butylhydroxytoluene)	2.0 pet	Cos/s 10
9	Chloramphenicol	5.0 pet	Med/s 1
10	Benzoylperoxide	1.0 pet	P&G 7
11	Propylene glycol	5.0 pet	ABS 30
12	Propolis	10.0 pet	Cos/s 8
13	Thimerosal (Merthiolate)	0.1 pet	An/Sep/s 9
14	Sorbic acid	2.0 pet	Ext/Cos 7
15	Eosin	5.0 pet	LU 15
16	4-Chloro-3-cresol (PCMC)	1.0 pet	ABS 35
17	Budesonide	0.1 pet	ABS 29
18	Triethanolamine	2.0 pet	Cos/s 19
19	Framycetin sulphate (polymyxin B sulphate)	20.0 pet	Med/s 27
20	Sorbitan sesquioleate	20.0 pet	Cos/s 2
21	Tixocortol-21-pivalate	1.0 pet	ABS 27
22	Sorbitan Oleate (Span 80)	5.0 pet	Ext/Cos 4
23	Phenylmercuric acetate	0.01 aq	HairPr 10
24	Chloroacetamide	0.2 pet	ABS 37
25	Germall II (Diazolidinylurea)	2.0 pet	ABS 4
26	Germall 115 (Imidazolidinylurea)	2.0 pet	ABS 14
27	Wood tar mix	12.0 pet	Var/s 7

Contact Allergen Bank Australia

Skin & Cancer Foundation

80 Drummond St

CARLTON VIC 3053

Tape Adhesives

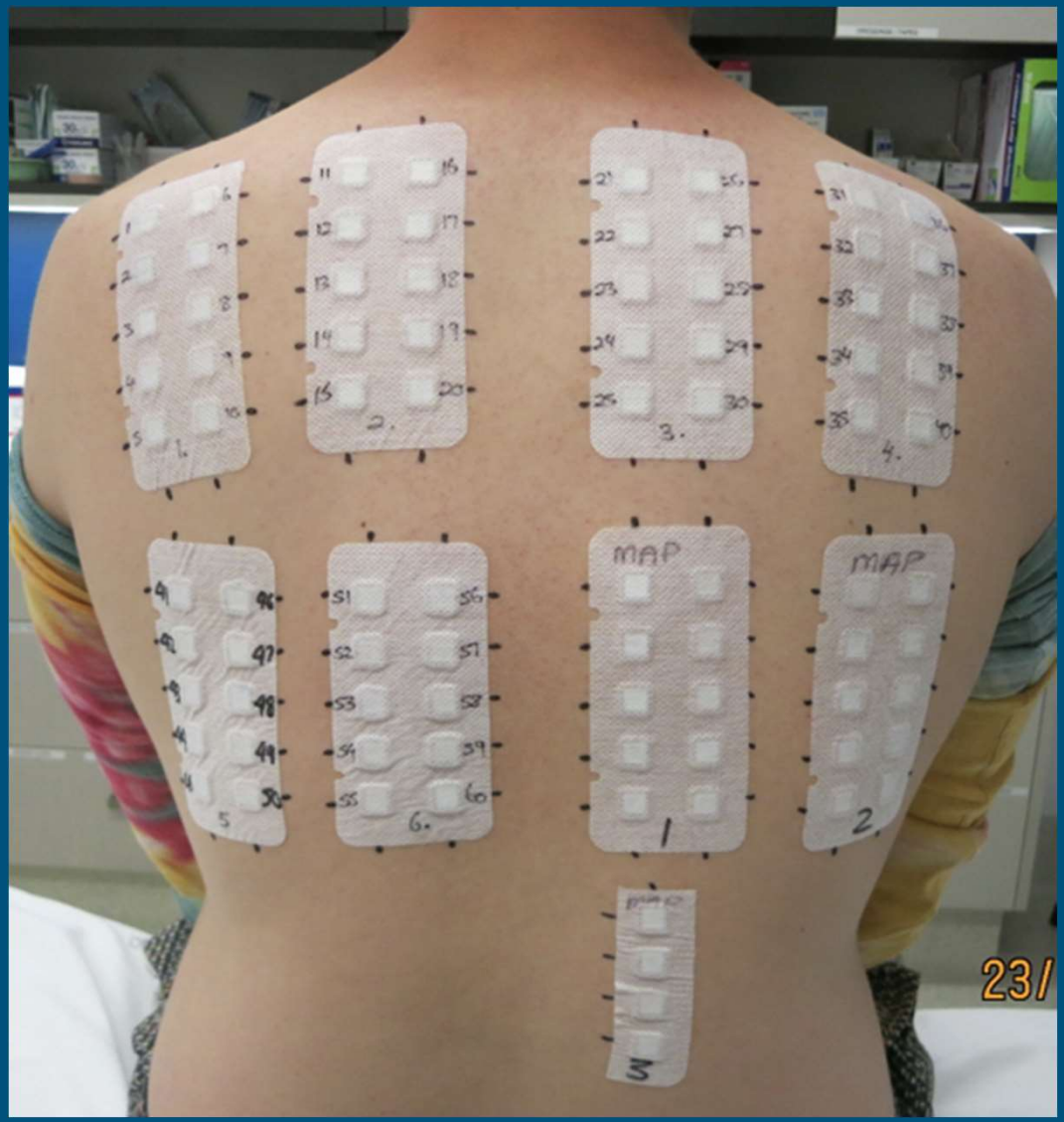
Order	Allergen Name	Dilution	Location
1	Colophony	20.0 pet	ABS 3
2	Mercaptobenzothiazole (MBT)	2.0 pet	ABS 6
3	Formalin	1.0 aq	ABS 7
4	Lanolin alcohol (Wool alcohol)	30.0 pet	ABS 9
5	Epoxy resin (araldite)	1.0 pet	ABS 10
6	Thiuram mix	1.0 pet	ABS 16
7	Mercapto mix	2.0 pet	ABS 17
8	Black rubber mix	0.6 pet	ABS 19
9	4-tert-Butylphenol formaldehyde resin (PTBP)	1.0 pet	ABS 24
10	Amerchol L 101	50.0 pet	ABS 49
11	Phenol formaldehyde resin (P-F-R-2)	1.0 pet	P&G 12
12	Mixed Dialkyl Thiourea	1.0 pet	ABS 39
13	Benzalkonium chloride	0.1 aq	ABS 46
14	Abietic acid	10.0 pet	O&C/s 1
15	Hydroperoxides of Limonene	0.3 pet	ABS 43
16	Chlorhexidine digluconate	0.5 aq	An/Sep/s 4
17	Hydroquinone	1.0 pet	HairChem 10
18	2-Ethylhexyl acrylate (EHA)	0.1 pet	MAP 2
19	4-tert. Butylcatechol (PTBC)	0.25 pet	P&G 8
20	Hydroabietyl Alcohol (Abitol)	10.0 pet	Cos/s 5
21	Diphenyl thiourea	1.0 pet	Rub 26
22	Diethylthiourea	1.0 pet	Rub 13
23	Dibutylthiourea	1.0 pet	Rub 14
24	tert-Butylhydroquinone	1.0 pet	Ext/Cos 46
25	Carba mix	3.0 pet	ABS 42
26	Tinc Benz Co	As is	Var/s 14

MEDICAMENTS (S)

Order	Allergen Name	Dilution	Location
1	Chloramphenicol	5.0 pet	Med/s 1
2	Kanamycin sulfate	10.0 pet	Med/s 2
3	Quinine sulfate	1.0 pet	Med/s 3
4	Sulfanilamide	5.0 pet	Med/s 4
5	Gentamicin sulfate	20.0 pet	Med/s 5
6	Nitrofurazone	1.0 pet	Med/s 6
7	Bacitracin	5.0 pet	Med/s 7
8	Miconazole	1.0 alc	Med/s 8
9	Econazole nitrate	1.0 alc	Med/s 9
10	Glutaraldehyde	0.2 pet	An/Sep/s 2
11	Quinoline mix	6.0 pet	Med/s 11
12	Chlorhexidine digluconate	0.5 aq	An/Sep/s 4
13	Menthol	2.0 pet	Med/s 13
14	Benzalkonium chloride	0.1 aq	ABS 46
15	Hydroquinone	1.0 pet	HairChem 10
16	Thimerosal (Merthiolate)	0.1 pet	An/Sep/s 9
17	Clioquinol	5.0 pet	Ext/Cos 13
18	Bufexamac	5.0 pet	ABS 51
19	Tetracycline HCl	2.0 pet	Med/s 19
20	Nystatin	2.0 pet	Med/s 20
21	Erythromycin base	10.0 pet	Med/s 21
22	Tocopheryl acetate (Vit E acetate)	10.0 pet	Cos/s 6
23	Atropine sulfate	1.0 aq	Med/s 23
24	EDTA (Edetic acid disodium salt)	1.0 pet	Cos/s 7
25	Phenylephrine hydrochloride	10.0 aq	Med/s 25
26	Pilocarpine hydrochloride	1.0 aq	Med/s 26
27	Framycetin sulphate (polymyxin B sulphate)	20.0 pet	Med/s 27
28	Betadine Antiseptic Solution- dilute as per jar	10.0 aq	An/Sep/s 10
29	Fusidic acid sodium salt	2.0 pet	Med/s 29
30	Clotrimazole	5.0 pet	Med/s 30
31	Vancomycin hydrochloide	10.0 aq	Med/s 31
32	Carboxymethyl cellulose sodium	2.0 pet	Med/s 32
33	Oxyphenbutazone	10.0 pet	Med/s 33
34	Silver colloidal	0.1 pet	Med/s 34
35	Amcinonide	0.1 pet	Med/s 35
36	Benzydamine hydrochloide	2.0 pet	Med/s 36
37	Promethazine hydrochloride	1.0 pet	Med/s 37
38	Chlorquinaldol	5.0 pet	Med/s 38
39	thymol	1.0 pet	Med/s 39
40	Ticonazole	1.0 pet	Med/s 40

Antiseptic Series (S)

Order	Allergen Name	Dilution	Location
1	Cetylpyridinium Chloride	0.1 pet	An/Sep/s 1
2	Glutaraldehyde	0.2 pet	An/Sep/s 2
3	Chlorhexidine diacetate	0.5 aq	An/Sep/s 3
4	Chlorhexidine digluconate	0.5 aq	An/Sep/s 4
5	4-Chloro-3-xylenol (PCMX)	1.0 pet	ABS 53
6	Benzalkonium chloride	0.1 aq	ABS 46
7	Triclosan (Irgasan)	2.0 pet	Cos/s 17
8	2-Bromo-2-nitropropane-1,3-diol (Bronopol)	0.5 pet	ABS 54
9	Thimerosal (Merthiolate)	0.1 pet	An/Sep/s 9
10	Betadine Antiseptic Solution- dilute as per jar	10.0 aq	An/Sep/s 10
11	Polyvidone iodine	10.0 aq	An/Sep/s 11
12	Cetrimonium Bromide	0.5 pet	HairPr 16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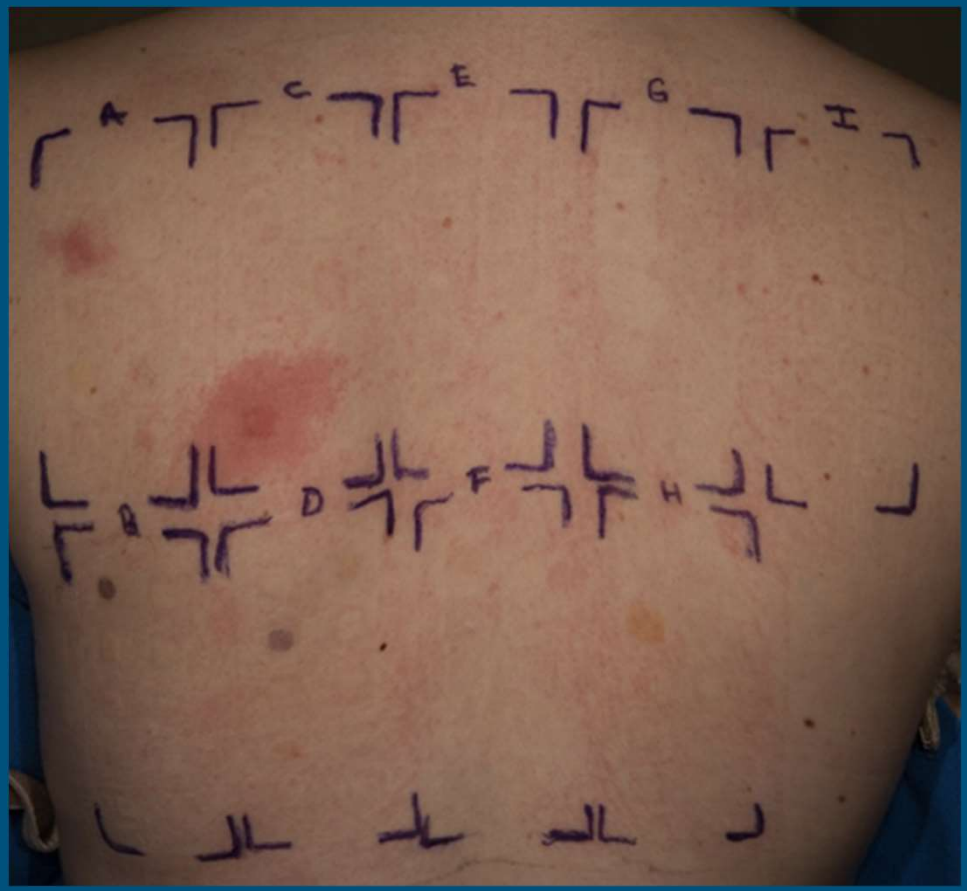
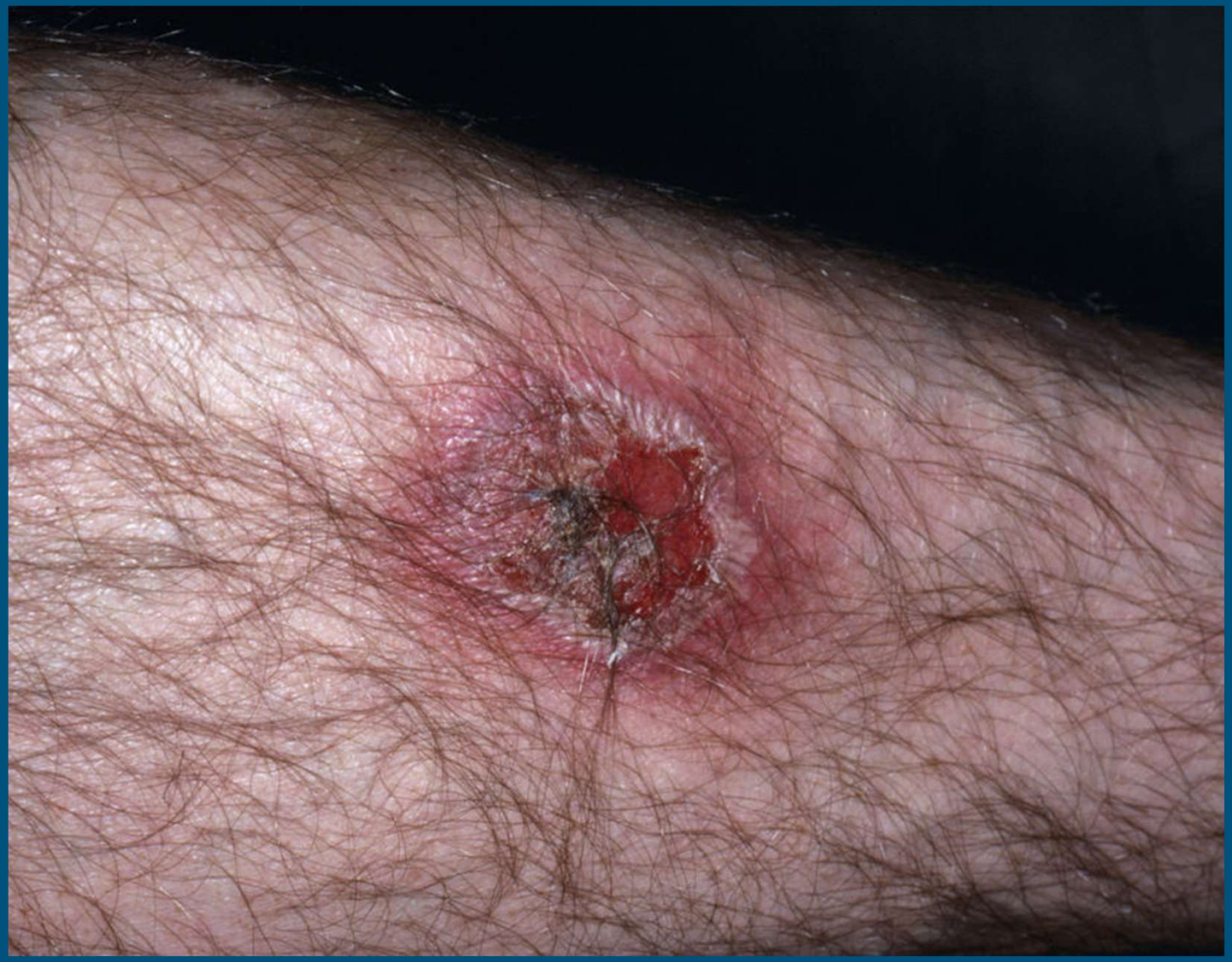
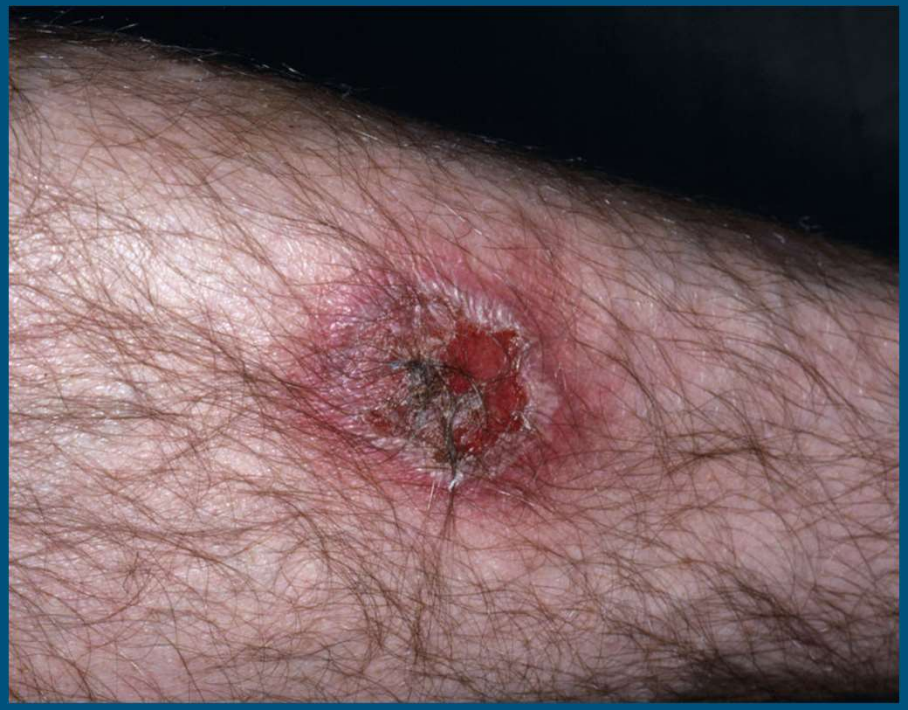
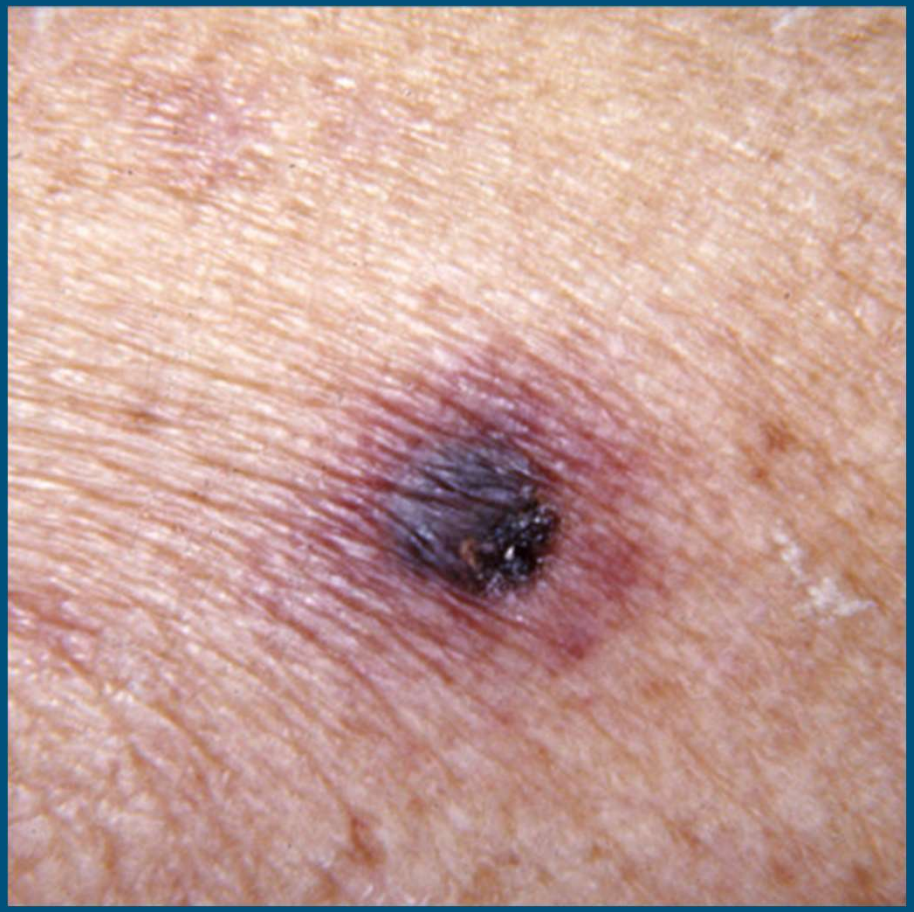


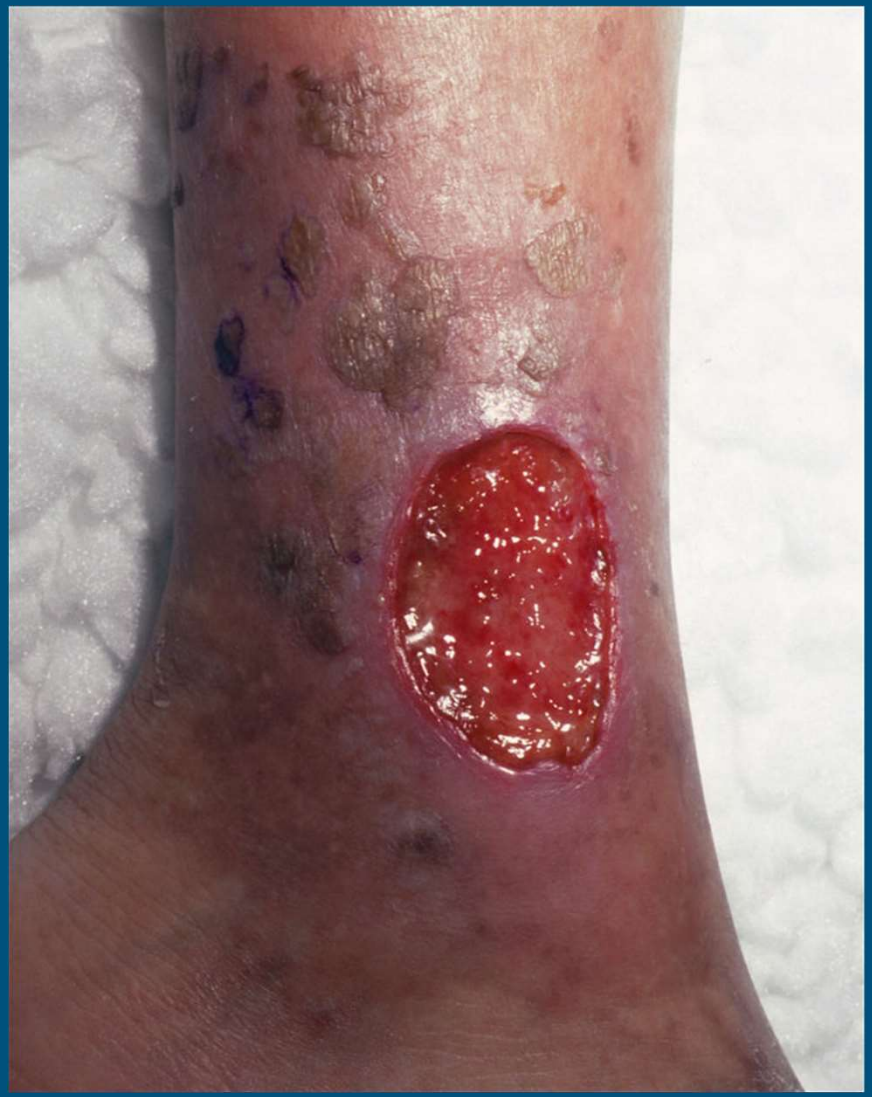


Ecthyma

- Group A beta-hemolytic strep + secondary staph
- Deeper form of impetigo
- Start as vesicle, pustule or crust
- Regional lymphadenopathy

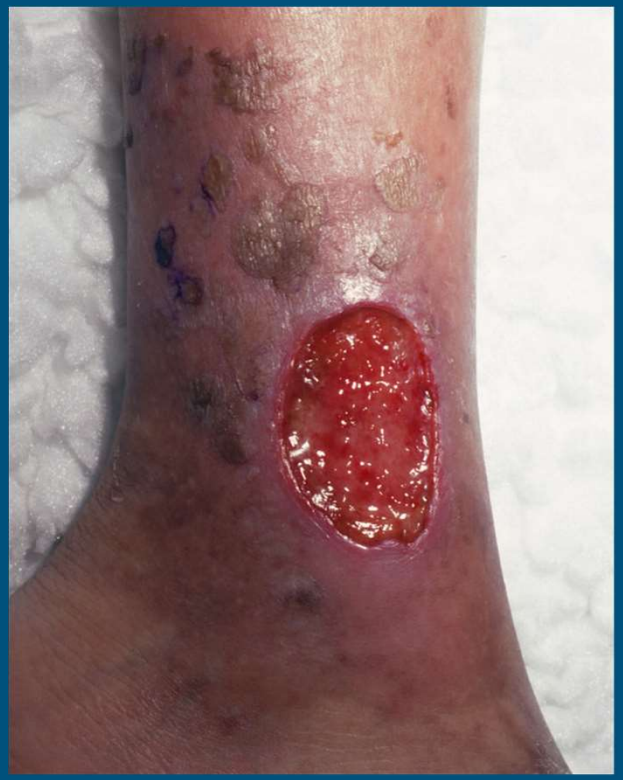


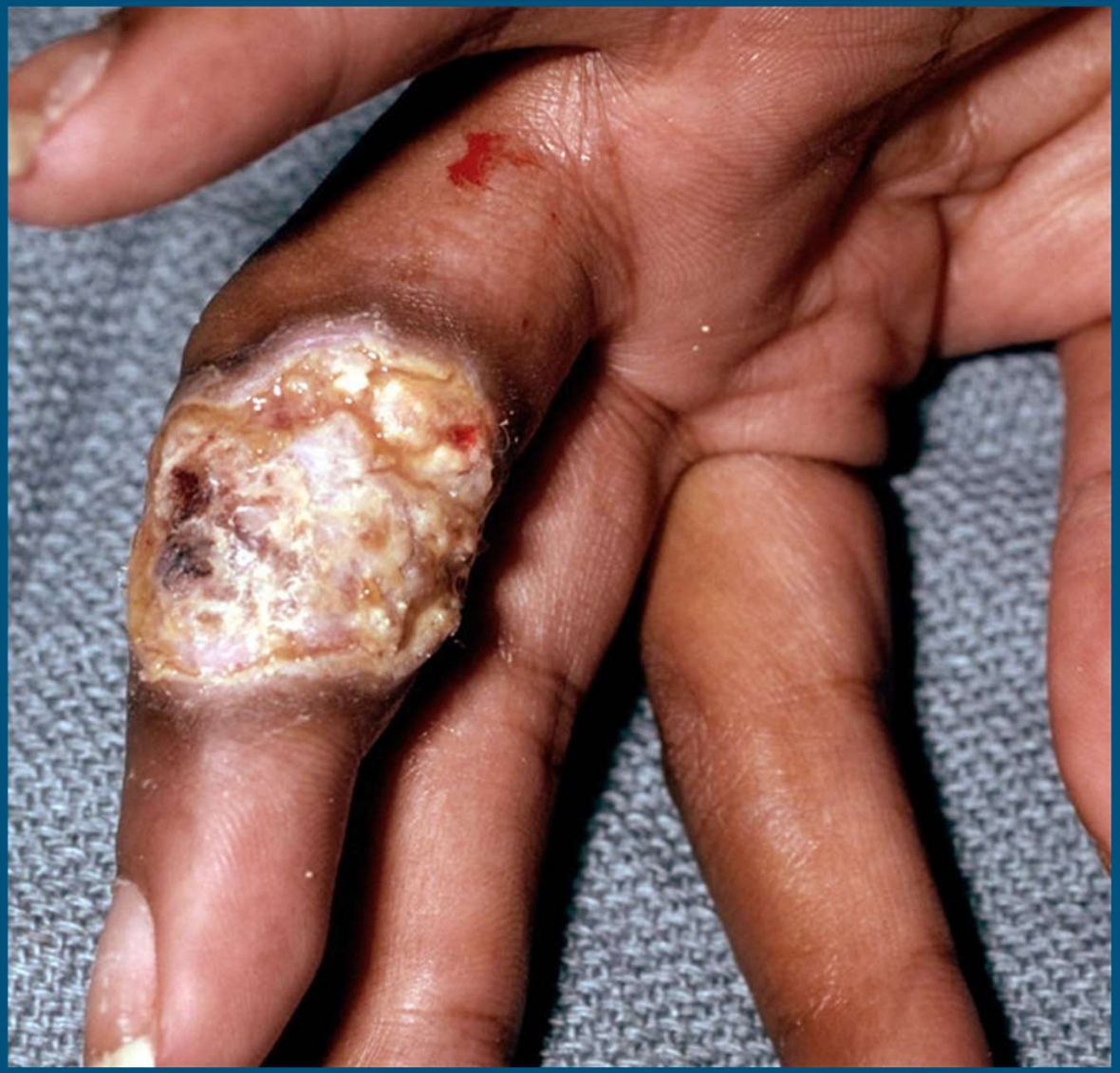




Ecthyma gangrenosum

- Pseudomonas aeruginosa
- Immunocompromised, chronic disease (DM)
- Gram negative sepsis (emergency)





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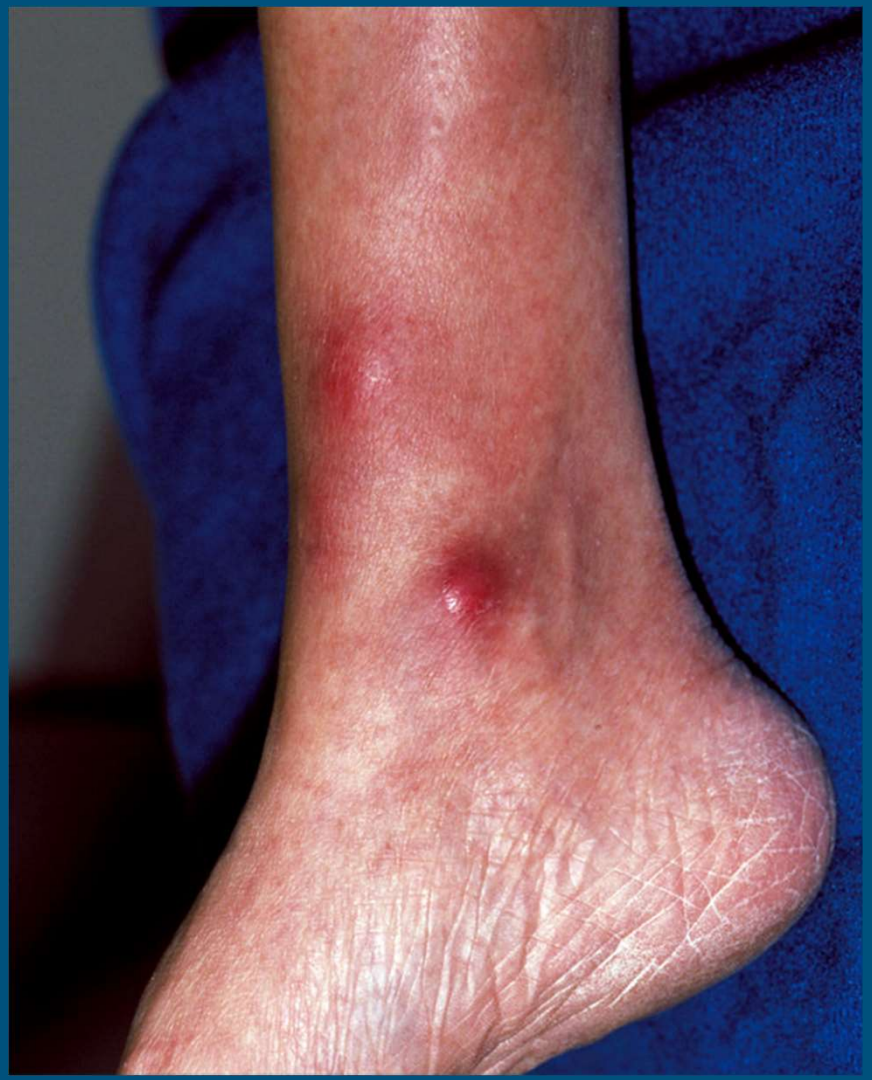
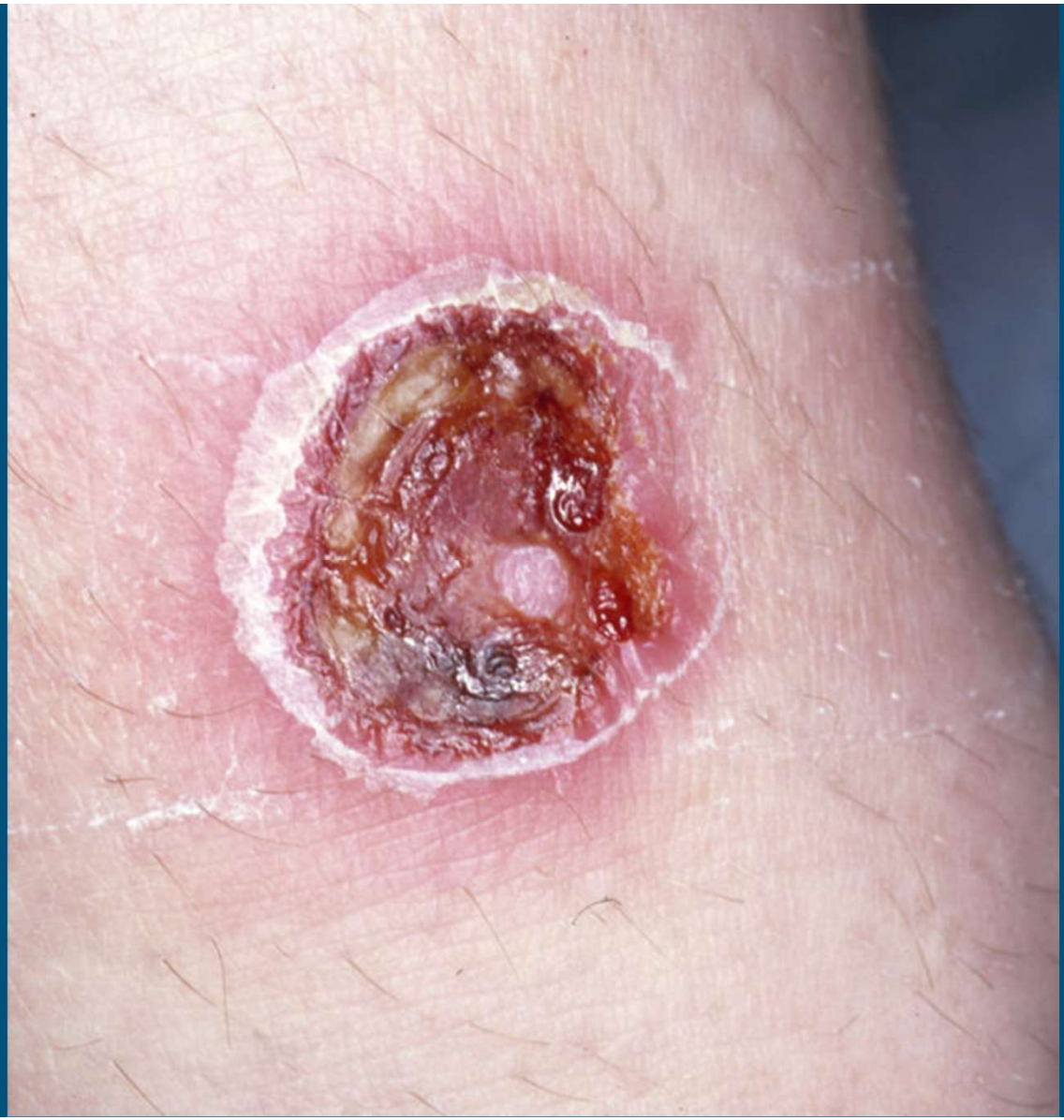
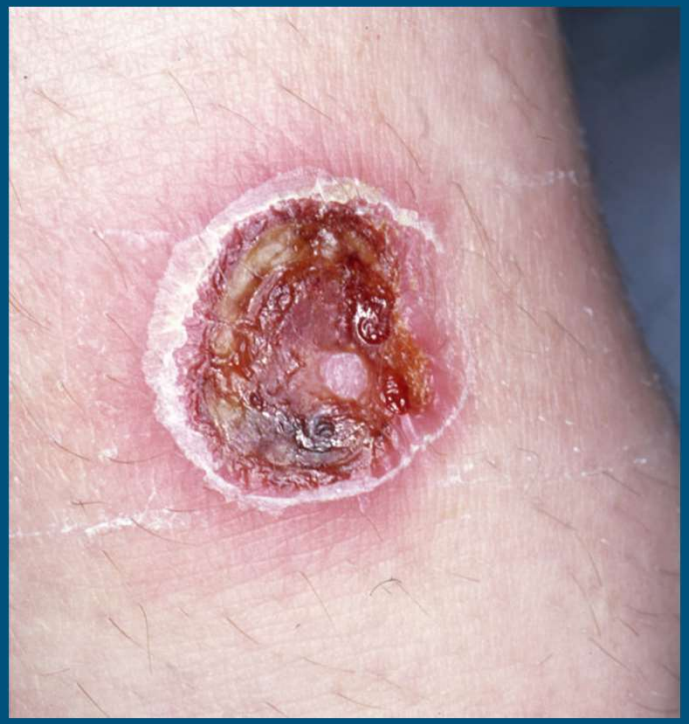




Mycobacteria

- Typical mycobacteria: Tb / leprosy
- Atypical mycobacteria: 30+ (marinum, ulcerans, chelonae…)
- Water, moist soil, vegetation, house dust, dairy products
- Percutaneous penetration including tattoos
- Immunocompromised, elderly most at risk



Buruli ulcer (BU)

- Named after Buruli County, Uganda, 1960s epidemic
- Most common atypical mycobacteria
- Mycobacterium ulcerans
- Exposure to stagnant water
- In Australia, BU is considered a zoonosis, transmitted by mosquitoes, from possums to humans
- Person to person spread is uncommon or does not occur

BU-2

- 2-3 months incubation period
- Bacilli release mycolactone (causes apoptosis, necrosis, local immunosuppression)
- One / more (lymphohematogenous spread) painless lesions
- 13% osteitis, osteomyelitis
- Lymphadenopathy, fever rare unless secondary bacterial infection
- Small ulcers may self resolve

Treatment

WHO recommends one of the following combinations of antibiotics. Complementary treatment including wound care and surgery (eg, debridement and skin grafting) may be necessary.
Rifampin (oral; 10 mg/kg) PLUS streptomycin (intravenous; 15 mg/kg) once daily for 8 weeks
Rifampicin (oral; 10 mg/kg) PLUS clarithromycin (oral; 7.5 mg/kg) twice daily for 8 weeks (safer for pregnant women, since streptomycin is contraindicated in pregnancy)
Rifampicin (oral; 10 mg/kg) PLUS moxifloxacin (oral; 400 mg) once daily has been used in Australia with good results, although effectiveness has not been proven by randomized trial.

Most patients should be treated for 8 weeks of therapy. Longer durations, out to 12 weeks, should be considered for patients with bone or joint involvement. Surgery is typically not needed, as most cases respond to antimicrobial therapy. If surgery is needed, WHO recommends up to 4 weeks of antibiotics before surgery, followed by 4 more weeks of antibiotics. However, the optimal timing of surgery during antibiotic therapy is unclear.

Continuous local heating to 40°C (by circulating water jackets) can be used for larger lesions or if surgery is contraindicated.

If patient presents with advanced disease of a limb, especially with bone involvement, amputation is sometimes necessary.

Lessons from practice

Possum bites man: case of Buruli ulcer following possum bite

Rachel W Xu[1]
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Clinical record

In June 2021, a previously well 81-year-old man, resident on the Mornington Peninsula, Victoria, presented to his general practitioner with a shallow, red ulcer on the dorsum of his left index finger over the distal interphalangeal joint, progressive over the previous 3 weeks. He recalled acquiring a small single-tooth puncture wound at this exact site from a ringtail possum (*Pseudocheirus peregrinus*) about 6 months previously at his home. No other finger injuries were recalled during those months.

The bite occurred after the animal appeared to be ailing and the patient attempted to catch it for wildlife carers. While no lesions were observed on this possum, he had noticed other possums around his home with skin lesions. After immediately washing with soap and eucalyptus oil, the wound fully healed in 2 weeks without apparent complication.

The ulcer with which the patient presented to his GP gradually started 6 months later, with induration, erythema and minor pain (Box, A). No fever, night sweats, lymphadenopathy or myalgia were reported. After failure to respond to one week of oral cephalexin, a referral was made to an infectious diseases physician (DPO) who suspected Buruli ulcer and organised a swab. *Mycobacterium ulcerans* infection was confirmed immediately by polymerase chain reaction (PCR) and subsequently by culture. The patient began an 8-week course of rifampicin and clarithromycin, complicated midway by a paradoxical flare of pain and swelling (Box, B), which settled with a course of oral prednisolone (0.4 mg/kg weaned over 11 weeks). Healing has progressed well since antibiotics were completed.

Faecal pellets from common ringtail and common brushtail possums (*Trichosurus vulpecula*) were collected from two sites in the patient's garden in July 2021. Eight pellets from each site were screened for the presence of *M. ulcerans* using IS2404 qPCR.[1] All 16 samples were qPCR-negative. It is unknown whether any of the collected samples were from the implicated possum.

The patient's only travel outside his town of residence in the 6 months before ulcer development was to north-east Melbourne, not known to be endemic. He has not left Australia for over 20 years. His only regular outdoor activity is cycling.

Discussion

Buruli ulcer is a destructive skin and soft tissue infection caused by *M. ulcerans*. It is endemic in tropical sub-Saharan Africa, coastal areas of temperate south-east Victoria, and tropical Far North Queensland.[2] The mode of transmission to humans remains controversial; however, compelling evidence exists for mosquitoes as the major vectors in temperate Australia, likely acting mechanically by carrying the pathogen on external body surfaces rather than biologically where the pathogen reproduces inside the host. Small marsupials are a likely environmental reservoir and amplifier in southern Australia, but no equivalent reservoir–vector pair has yet been identified overseas.[1,2]

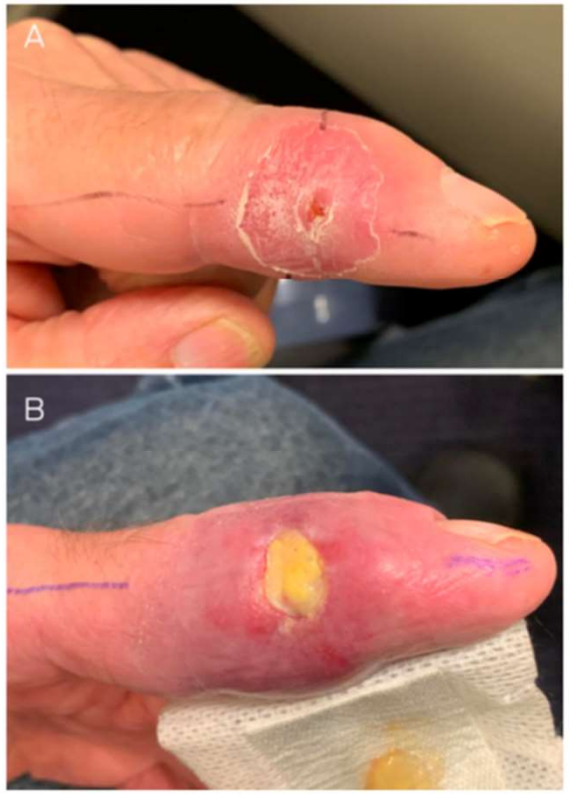
M. ulcerans has been identified in skin lesions and faeces of both ringtail and brushtail possums in south-east Victoria. The proportion of *M. ulcerans*-positive possum faeces in environmental surveys correlates closely with risk of Buruli ulcer in humans, suggesting a significant role for possums in the transmission cycle.[1,2]

We present a case of an apparent *M. ulcerans* infection directly from a possum rather than indirectly from a mechanically contaminated mosquito.[2] Notably, the possum's observed "sickly" demeanour suggests it was unwell, but we have not been able to retrieve the affected individual. Possible transmission modes include contamination of saliva with *M. ulcerans* from the environment or from licking *M. ulcerans*-positive wounds. A paradoxical reaction, as featured in this case, is an inflammatory flare-up after commencing antibiotics, presumably from liberated antigenic material from the infection site stimulating the local immune system, which was initially suppressed by *M. ulcerans*' immunosuppressive toxin, mycolactone.

The proposed transmission event fits within the known incubation period range for Buruli ulcer of 2–10 months. Buruli ulcer lesions are more common on surfaces that are indirectly, not necessarily directly, exposed to the environment, such as forearms and legs rather than fingers,[3] supporting transmission via an insect vector. Unusually, the lesion in this case occurred at a site where a mosquito is less likely to successfully bite, providing further circumstantial evidence supporting the possum bite itself as the transmission event. Lesion-free possums may still harbour *M. ulcerans*, as lesion-free possums with *M. ulcerans*-positive gut and faecal samples have been noted.[1] The negative PCR results from the faecal samples may be explained by the collection occurring over 6 months after the biting incident, after which the animal may have died.

Possums have been implicated in the transmission of other infections. Three cases of tularaemia in humans after bites or scratches from unwell ringtail possums have been reported in Australia, most recently in Sydney in 2020.[3] Brushtail possums are a key reservoir species in the zoonotic transmission of Ross River virus in Australia[4] and *Mycobacterium bovis* in New Zealand.[5]

Lesion before beginning the 8-week course of rifampicin and clarithromycin (A). Paradoxical flare of pain and swelling midway through antibiotic course (B)



This demonstrates the capabilities of possums to maintain pathogens in the environment and facilitate their spread to humans. Our case serves as another potential piece of the growing body of evidence that implicates possums as a major environmental reservoir of *M. ulcerans* in Buruli ulcer endemic areas of south-east Australia.

Lessons from practice

- Possums are implicated in the zoonotic transmission of various infectious diseases, now including Buruli ulcer, with strong evidence suggesting they are implicated with mosquitoes as a major reservoir–vector pair in south-east Victoria.
- Buruli ulcer lesions occur on exposed body surfaces in a distribution that supports a biting insect vector as a likely major mechanism of transmission to humans in south-east Victoria.
- Consider enquiring about environmental contact, in particular previous mosquito or other animal bites at the lesion site, up to 10 months before the appearance of the lesion.
- A paradoxical flare of increased pain and swelling, relating to the immunosuppressive effects of *Mycobacterium ulcerans*, can occur on initiation of antibiotics and can be treated with prednisolone.

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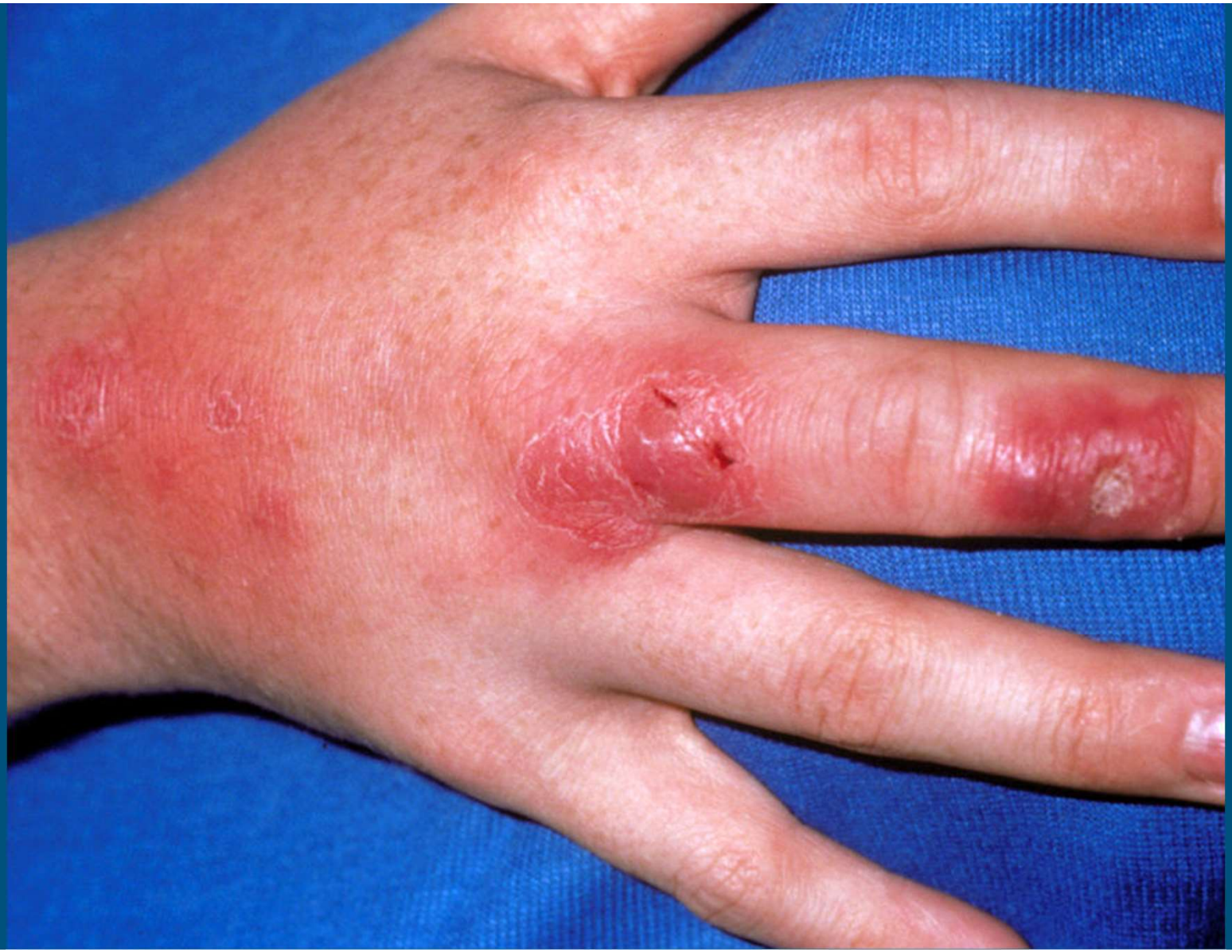
Competing interests: No relevant disclosures.

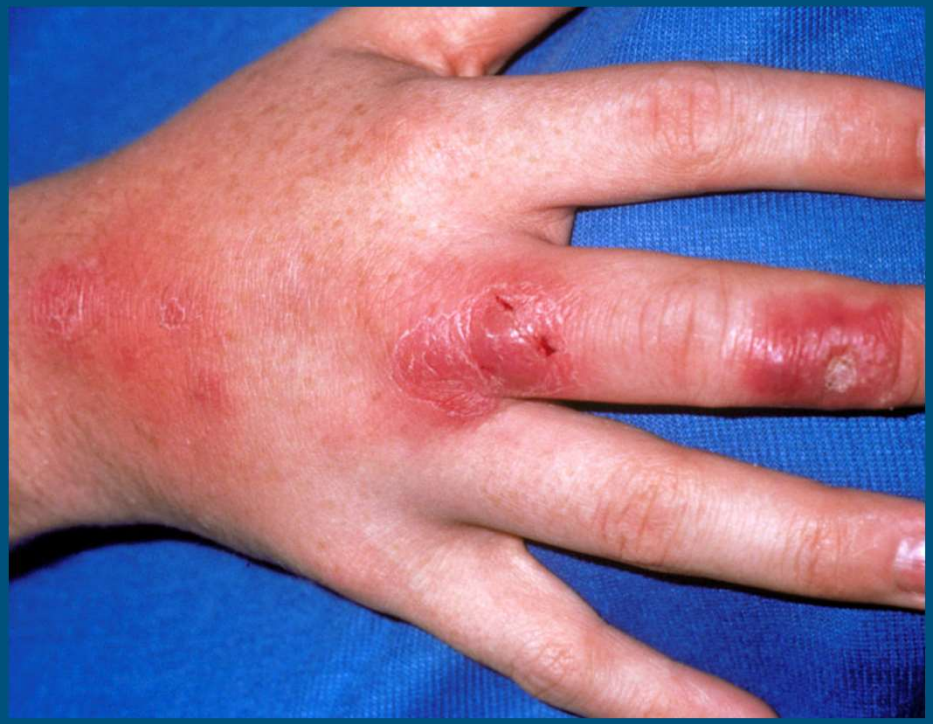
Provenance: Not commissioned; externally peer reviewed. ■

1 Fyfe JAM, Lavender CJ, Handasyde KA, et al. A major role for mammals in the ecology of *Mycobacterium ulcerans*. *PLoS Negl Trop Dis* 2010; 4: e791.
2 Johnson PDR. Buruli ulcer in Australia. In: Pluschke G, Röltgen K, editors. Buruli ulcer: *Mycobacterium ulcerans* disease. Cham: Springer, 2019.
3 Rare infection from possum scratch prompts warning. *The Pulse* (Sydney) 2020; 20 May. https://thepulse.org.au/2020/05/20/rare-infection-from-possum-scratch-prompts-warning/ (viewed Aug 2021).
4 Koolhof IS, Carver S. Epidemic host community contribution to mosquito-borne disease transmission: Ross River virus. *Epidemiol Infect* 2017; 145: 656-666.
5 Palmer MV. *Mycobacterium bovis*: characteristics of wildlife reservoir hosts. *Transbound Emerg Dis* 2013; 60 (Suppl): 1-13. ■



Mycobacterium marinum

- Fish tank or swimming pool granuloma
- World-wide fresh and saltwater (occupational or recreational exposure)
- 2-3 weeks after inoculation (maybe months)
- Sporotrichoid spread (lymphatic channels, enlarged lymph nodes)

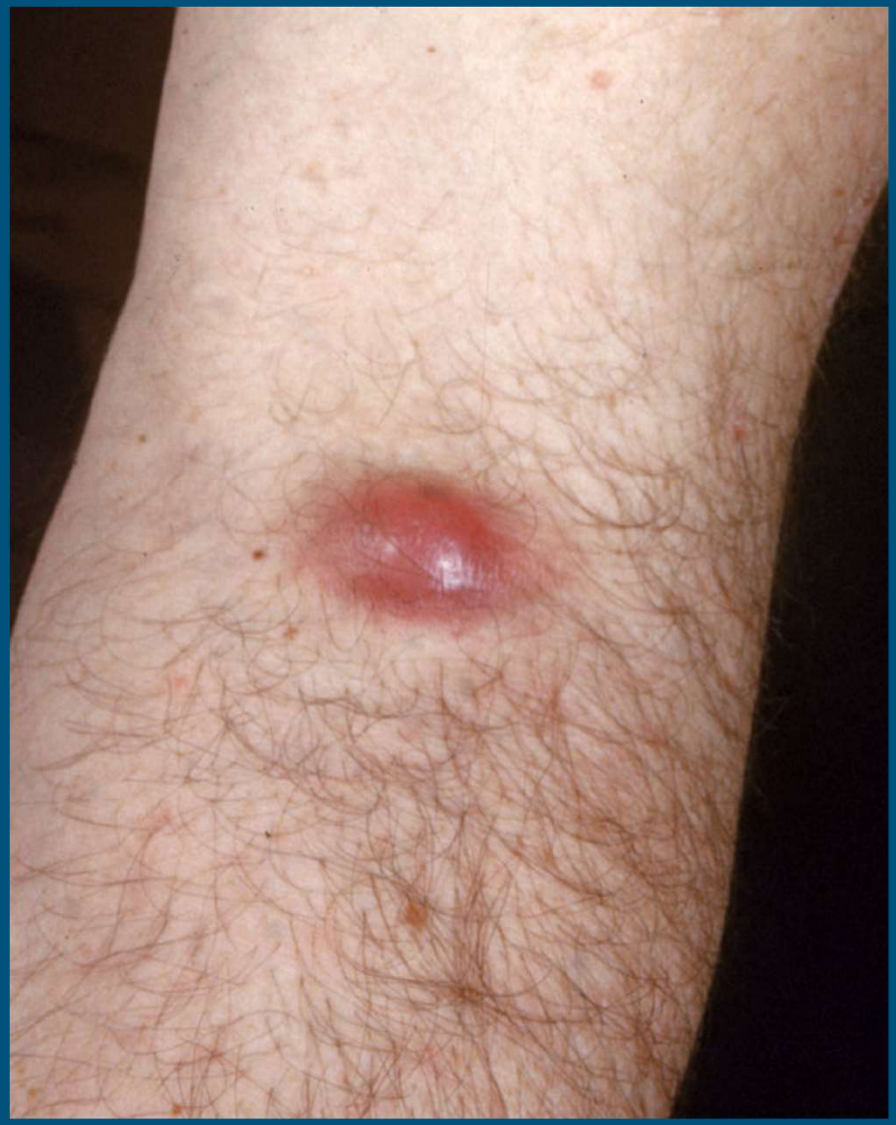


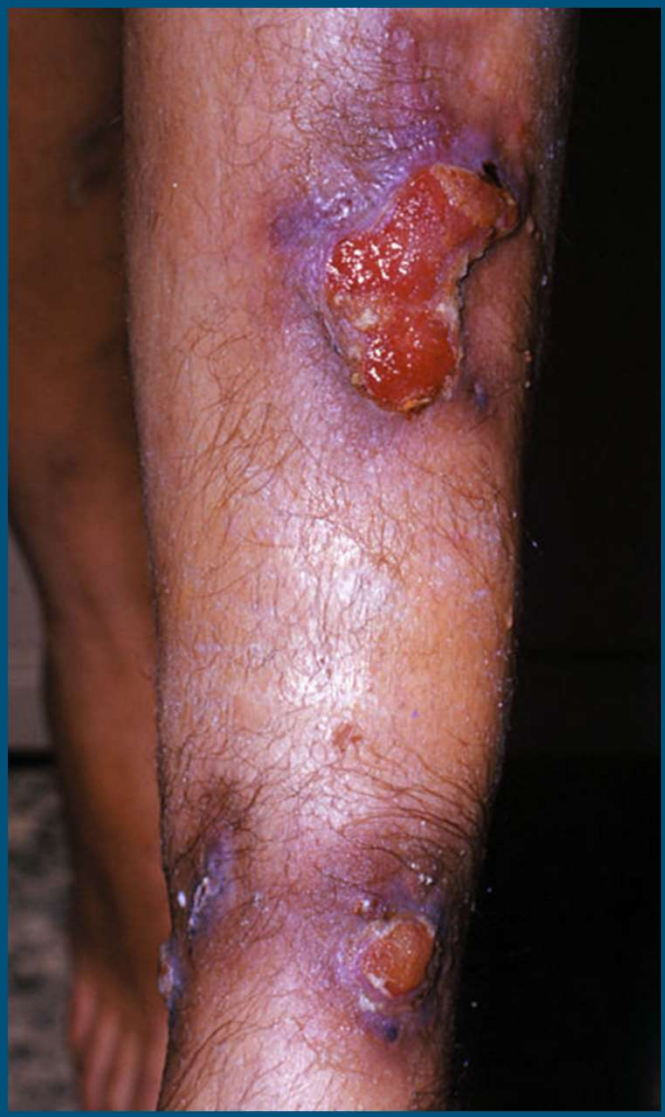
Treatment

Treatment is typically continued for 4-6 weeks after clinical resolution. The World Health Organization (WHO) recommends at least 8 weeks of treatment, and though treatment may rarely last 18 months or more, it averages around 3 months duration.

Several antibiotic regimens have reported efficacy:
Clarithromycin (500 mg by mouth twice daily)
Minocycline or doxycycline therapy (100 mg by mouth twice daily)
Rifampin (600 mg by mouth daily) plus ethambutol (1.2 g by mouth daily)
Other effective antibiotics include trimethoprim-sulfamethoxazole and levofloxacin
Surgical methods (simple excision, incision and drainage, or electrodesiccation and curettage) may be employed for resistant solitary lesions.

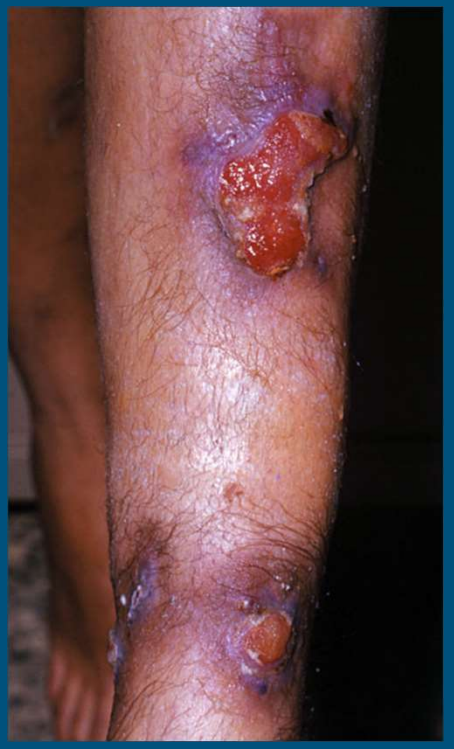
For immunocompromised patients: therapy should be extended for 6-9 months.
Three months of clarithromycin 500 mg by mouth twice daily, minocycline or doxycycline therapy (100-200 mg by mouth daily), or trimethoprim-sulfamethoxazole 160/800 by mouth twice daily.
More extensive lesions may be treated with a combination of the above or ethambutol 25 mg/kg by mouth daily plus rifampin 600 mg by mouth daily.





Sporotrichosis

- Sporothrix schenckii - fungus
- Decaying vegetation, thorny plants (rose bushes), hay, soil
- Tropical, subtropical
- Traumatic inoculation
- Painless nodules, new lesion along lymphatics over several weeks



Treatment

Localized Cutaneous (Fixed Cutaneous or Lymphocutaneous)

Topical therapy is of no value.

Itraconazole is the treatment of choice because of superior tolerability. Oral potassium iodide solution is also effective in treating localized disease and is much less costly but has multiple side effects including increased lacrimation or salivation, metallic taste, gastrointestinal disturbance, and thyroid dysfunction.

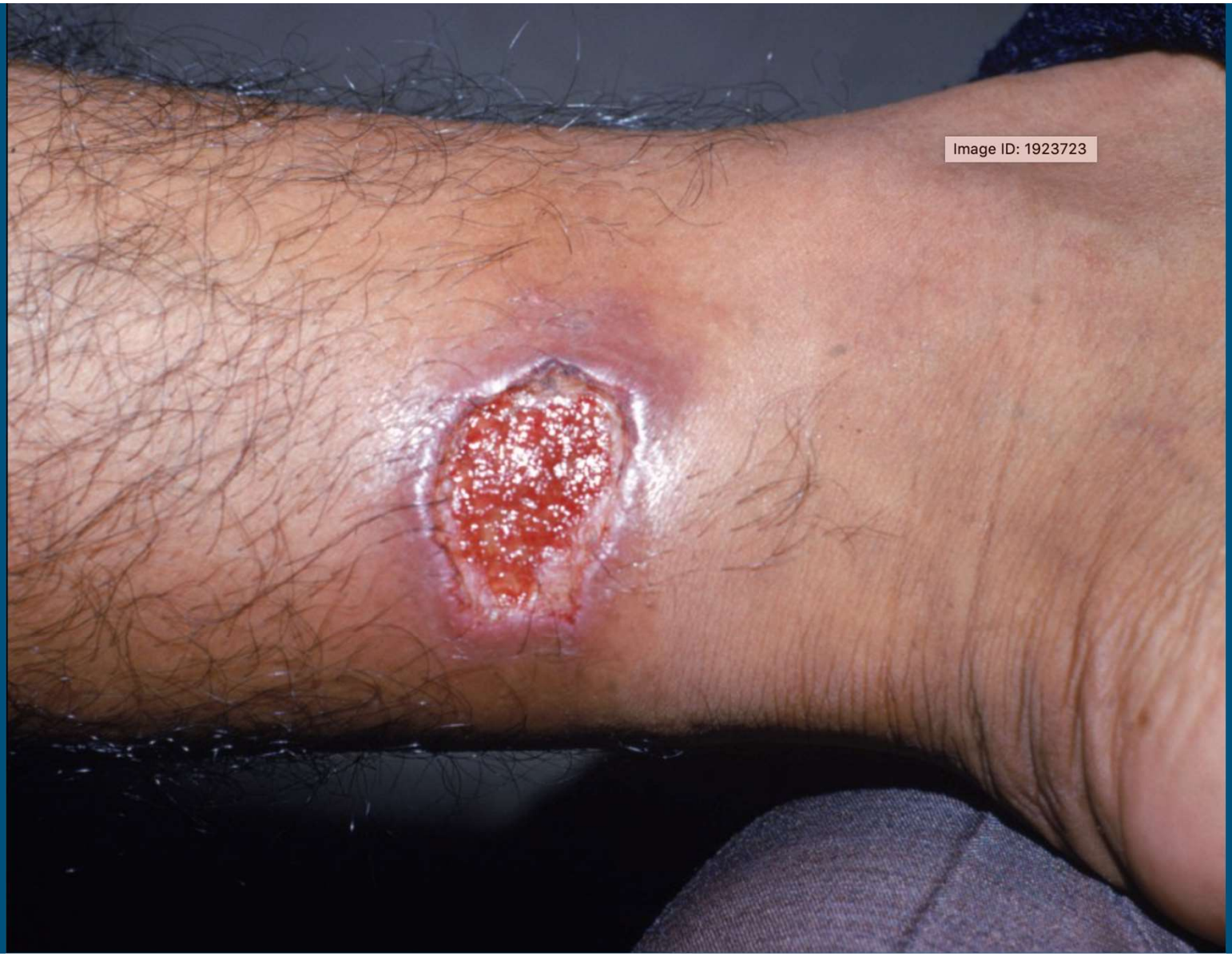
Itraconazole 200 mg by mouth daily for 3-6 months (or at least 2-4 weeks after lesions have healed)

Oral potassium iodide solution, 5 drops 3 times daily gradually increased to 30-50 drops 3 times daily, for 12-16 weeks

Terbinafine 500 mg by mouth twice daily (for the same duration as for itraconazole)

Disseminated Cutaneous / Systemic

Amphotericin B intravenous (IV) 0.5 mg/kg/day up to a total of 1-2 g; after amphotericin B, itraconazole can be continued for 12 months total. For meningeal disease, itraconazole lifelong suppression should be considered.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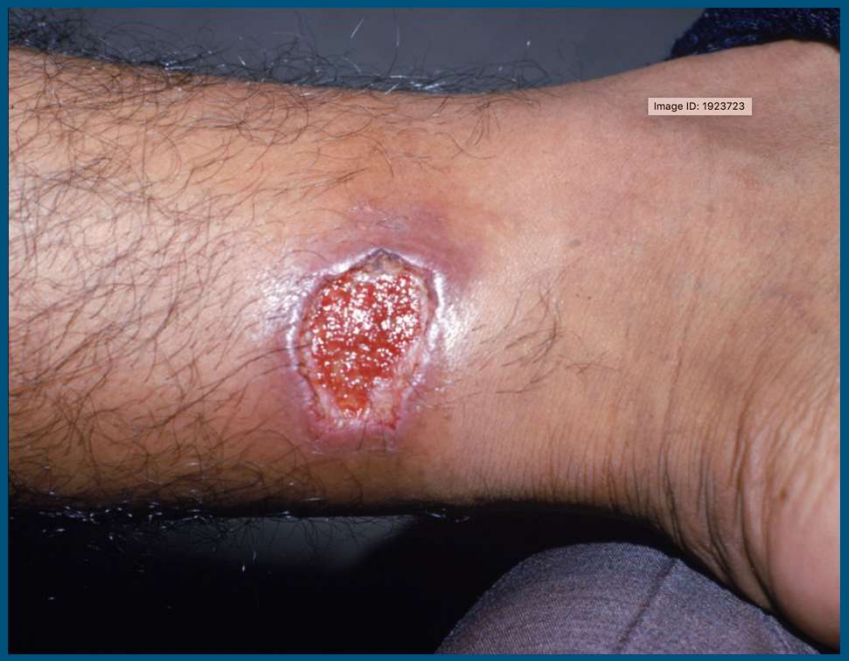
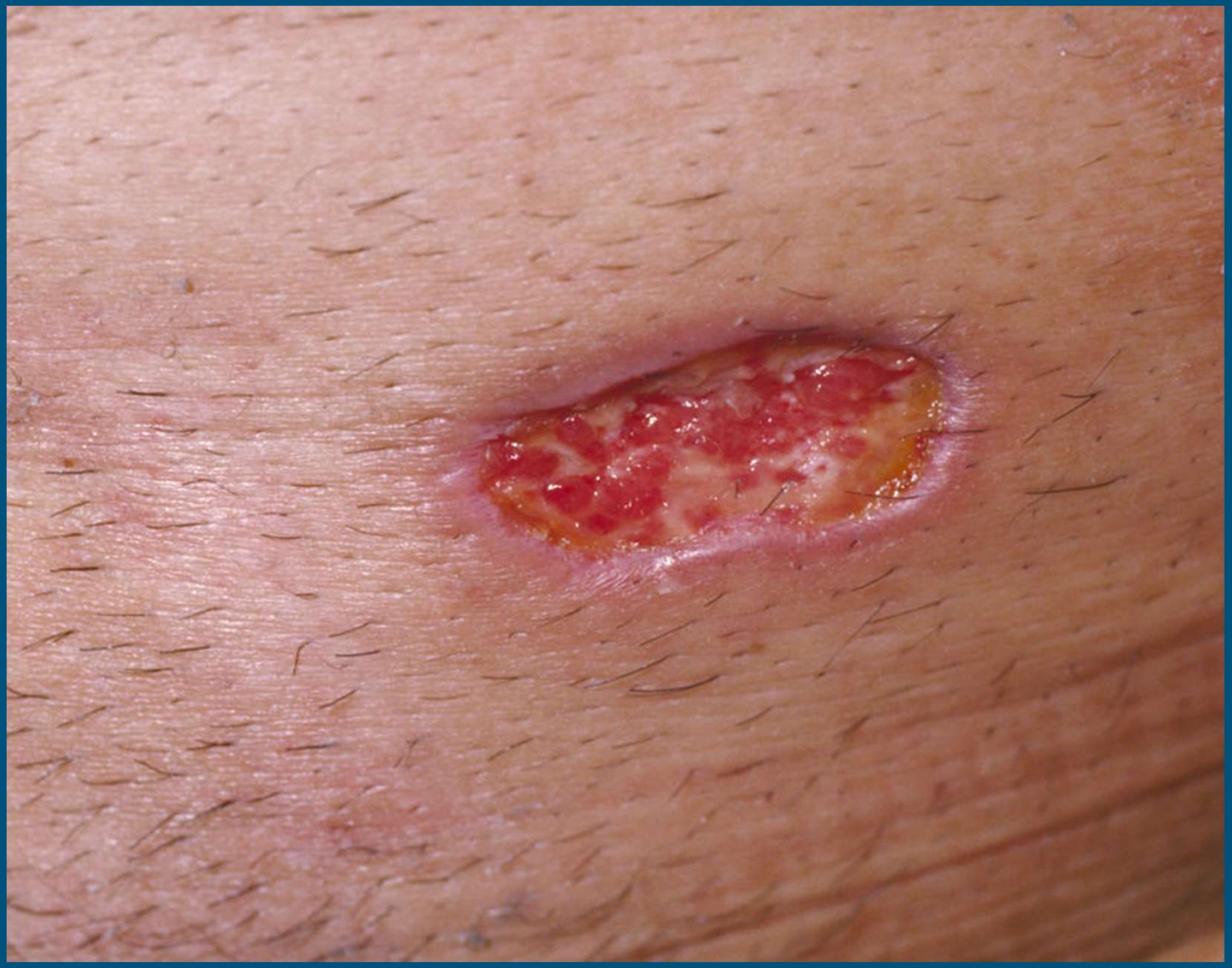
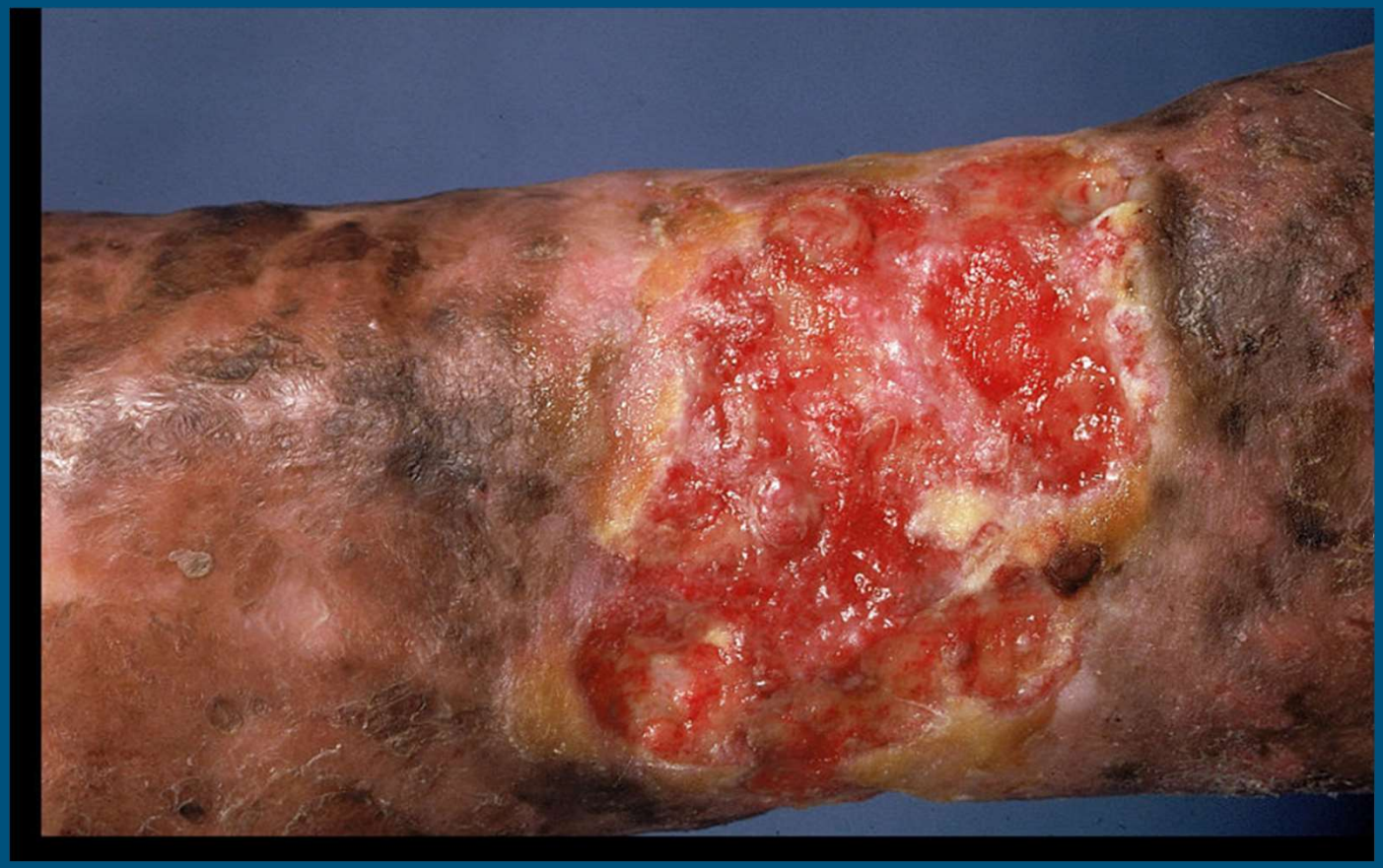
Leishmaniasis

- Old world: Afghanistan, Pakistan, Iran, Iraq, Syria, Saudi Arabia, Algeria
- New world: Brazil, Peru
- Female sandflies
- Mammalian reservoir hosts: Dogs, rodents, bats
- Children
- Over weeks-months
- Papule > nodule > ulcerate
- Itch, pain, secondary bacterial infection
- Lymphatic chain > lymphadenopathy
- Over months-years > hypopigmented atrophic scars
- Reactivation of infection sometimes years after
- Thin smear, biopsy, PCR, culture
- Rx: Topical, oral, parenteral

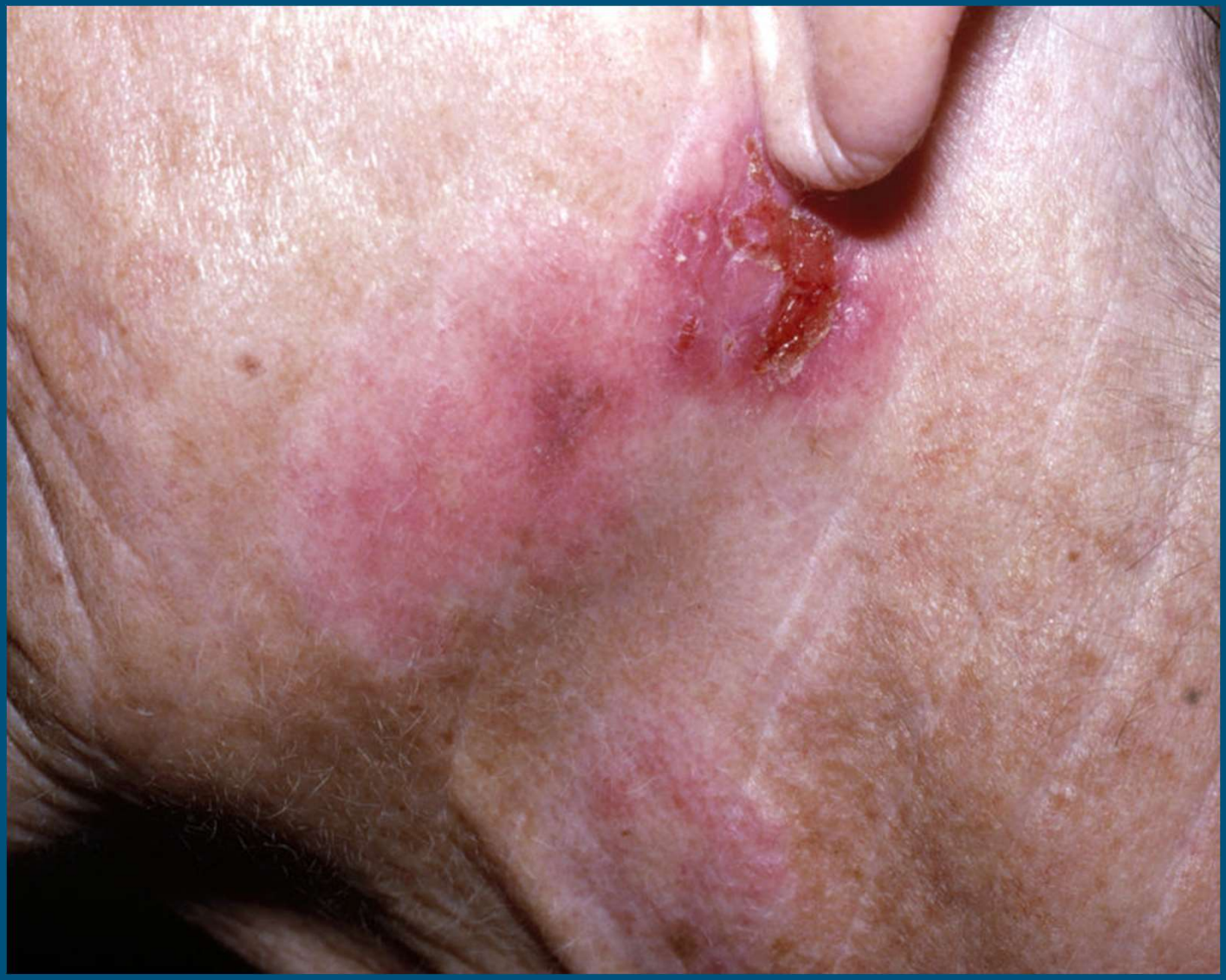




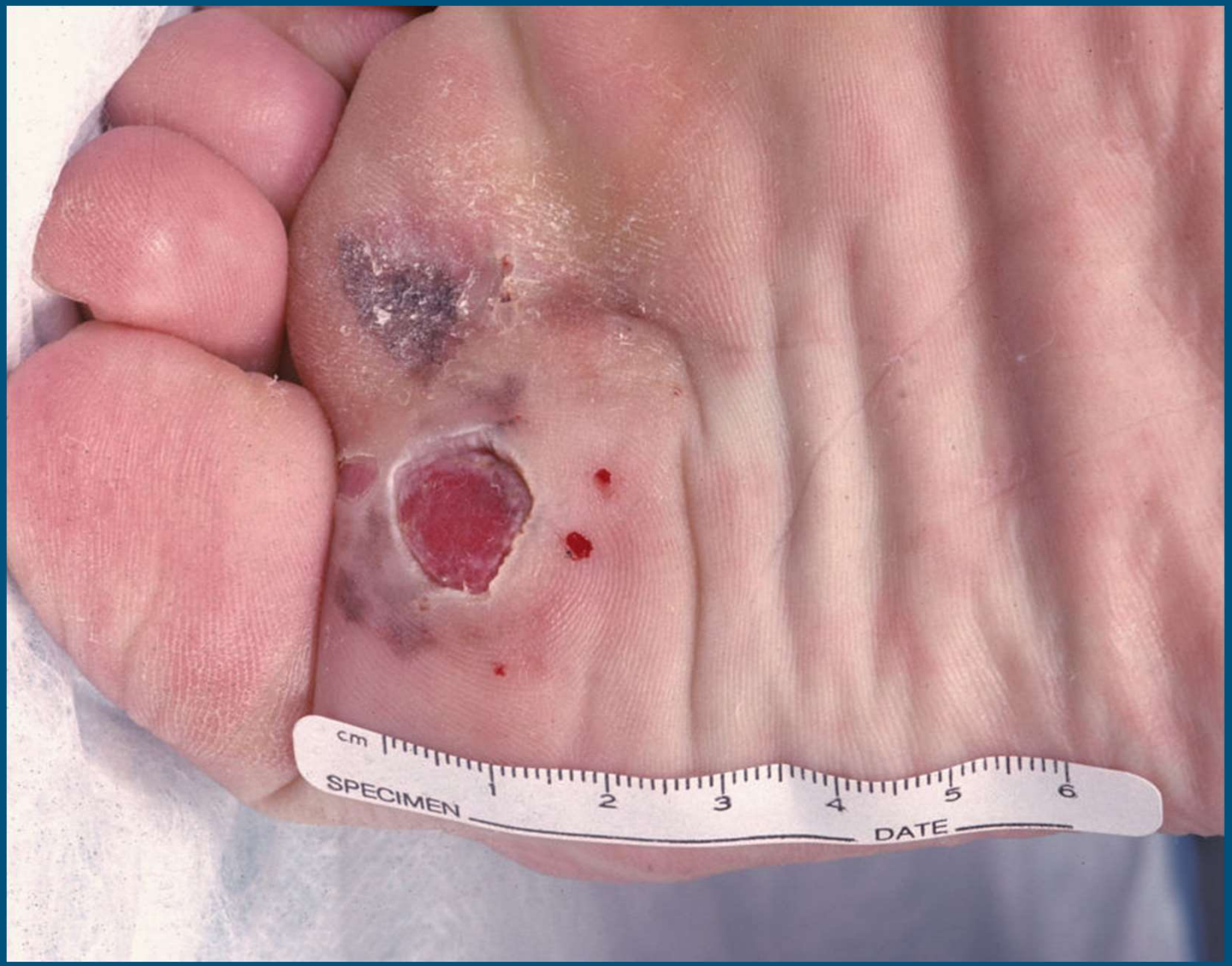
SCC



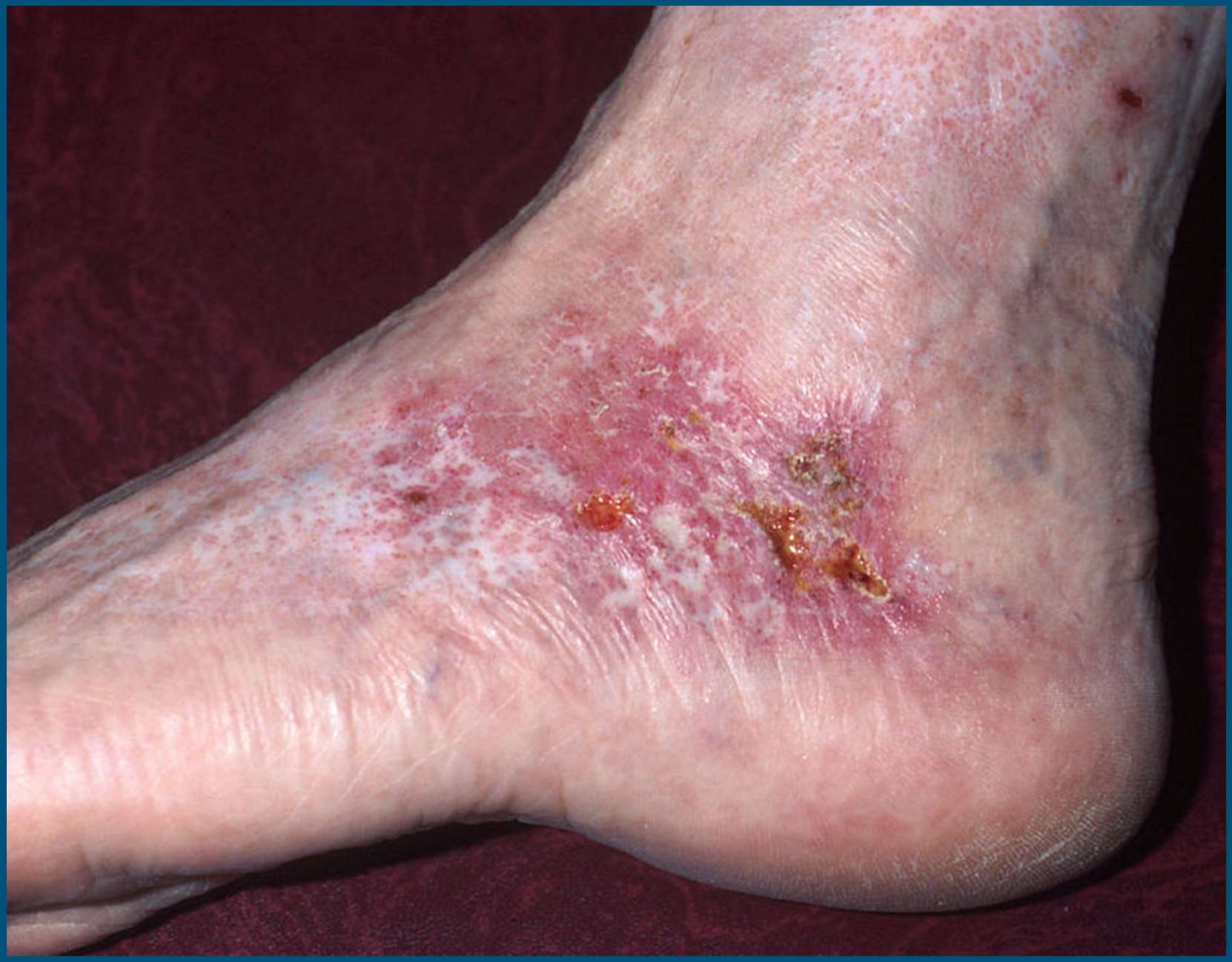
SCC in burn scar



Amelanotic melanoma

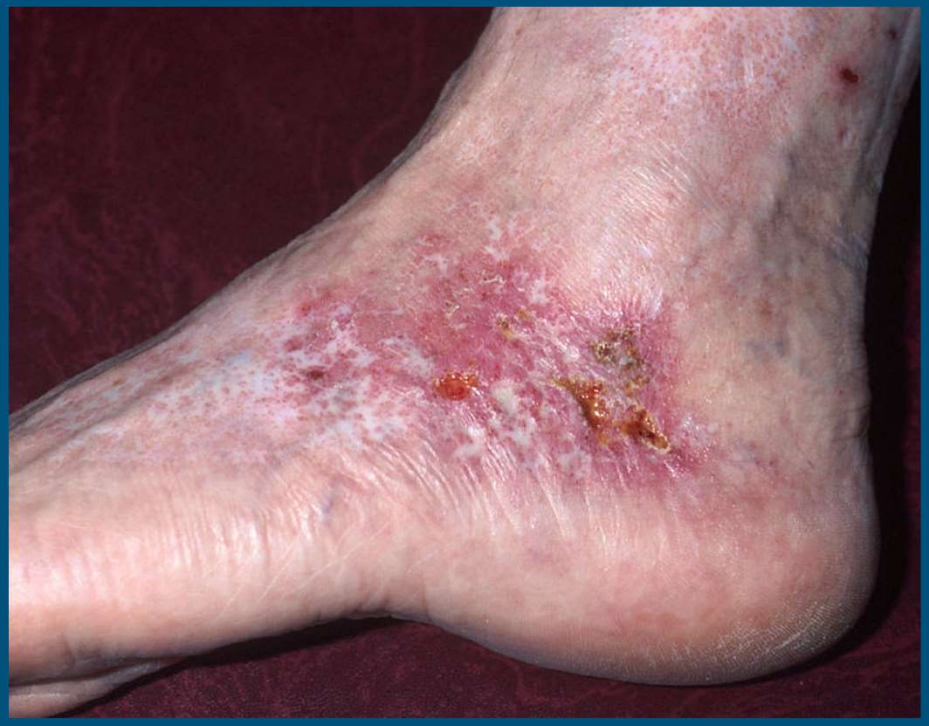


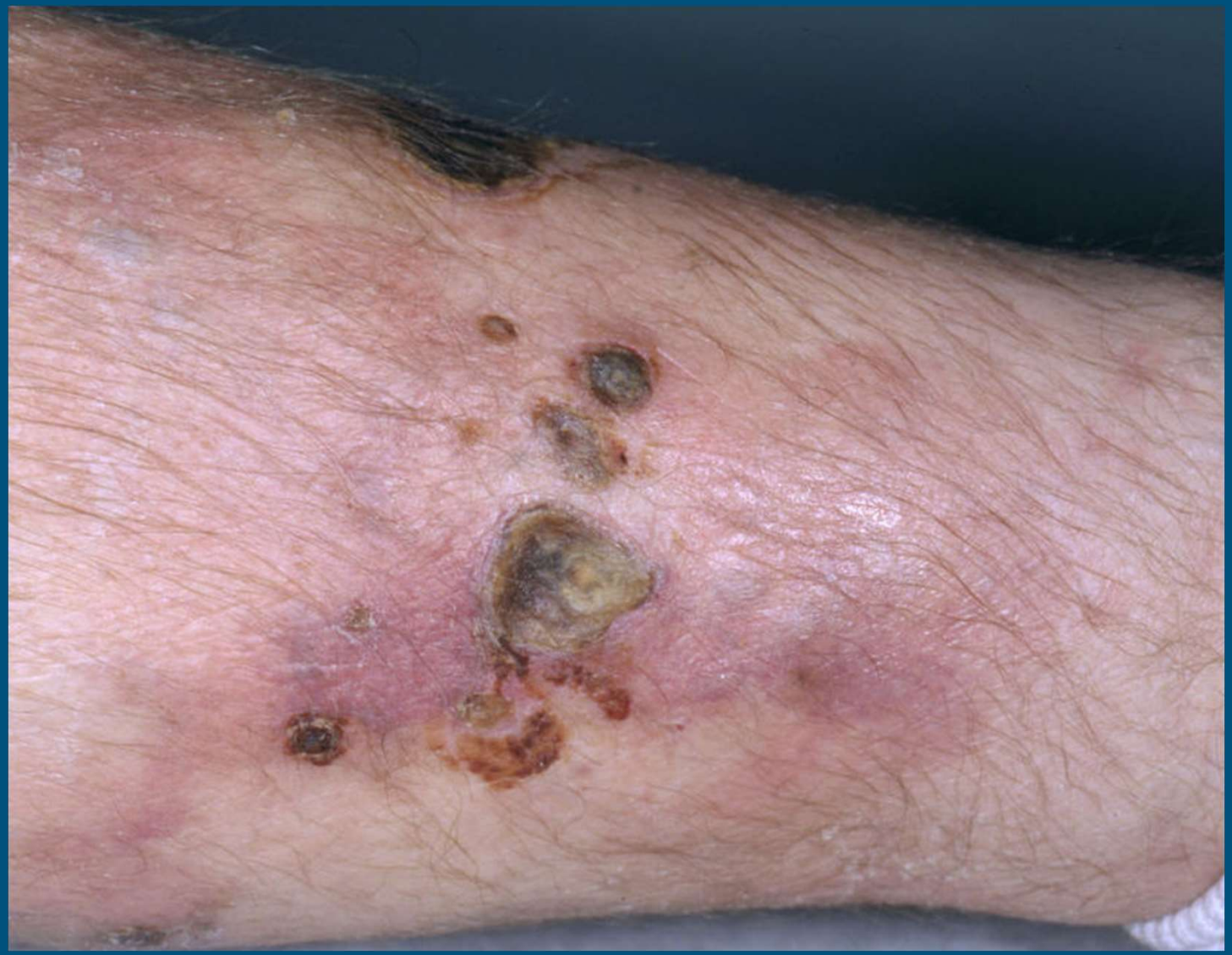
Epitheloid sarcoma



Livedoid vasculopathy/vasculitis

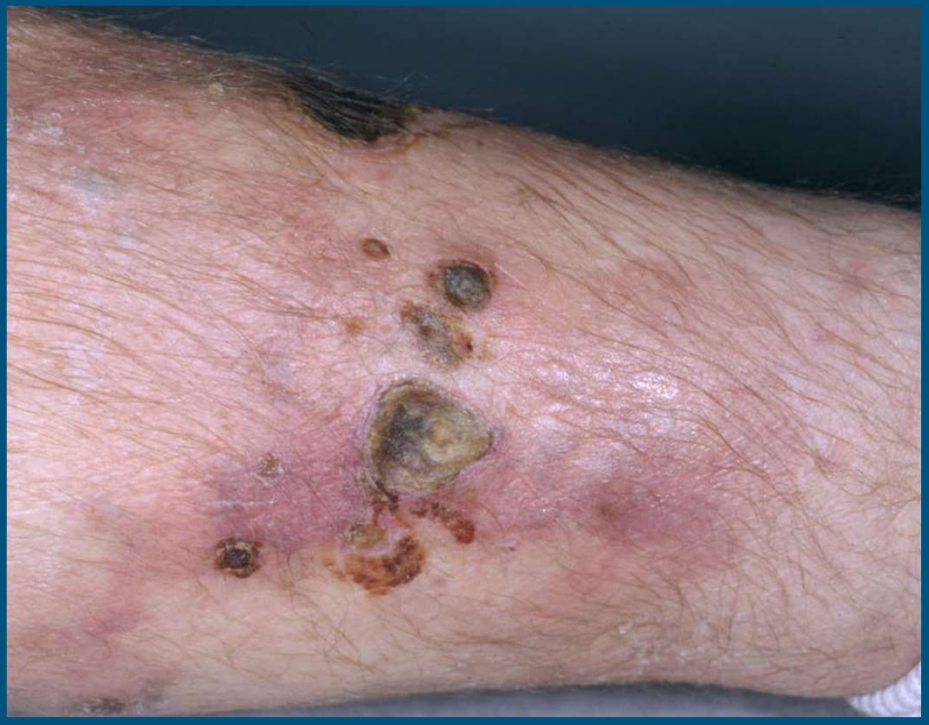
- Vaso-occlusion of cutaneous microcirculation
- ? increased coagulability or decreased fibrinolysis
  - Connective tissue disease, myeloma, hep B/C, unknown
- Retiform purpura, atrophie blanche, painful stellate ulcer
- Ankles, dorsum of foot
- Rx. Anticoagulation

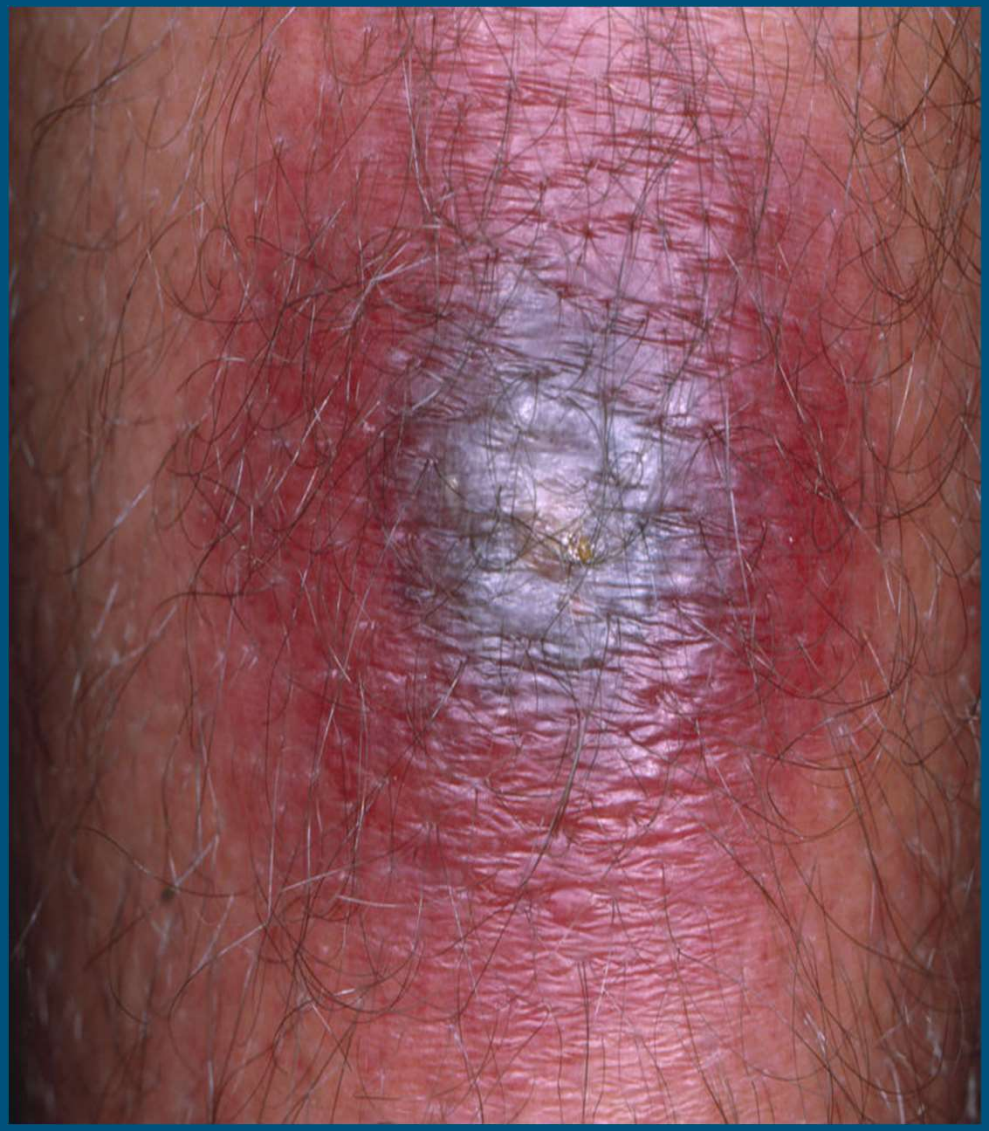


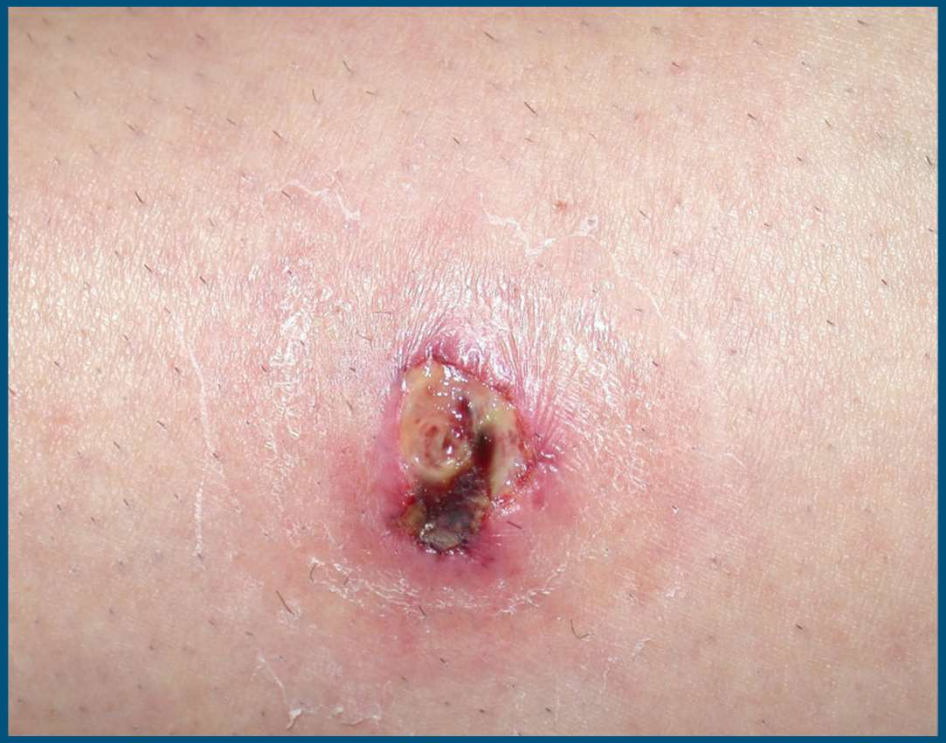


Calciphylaxis

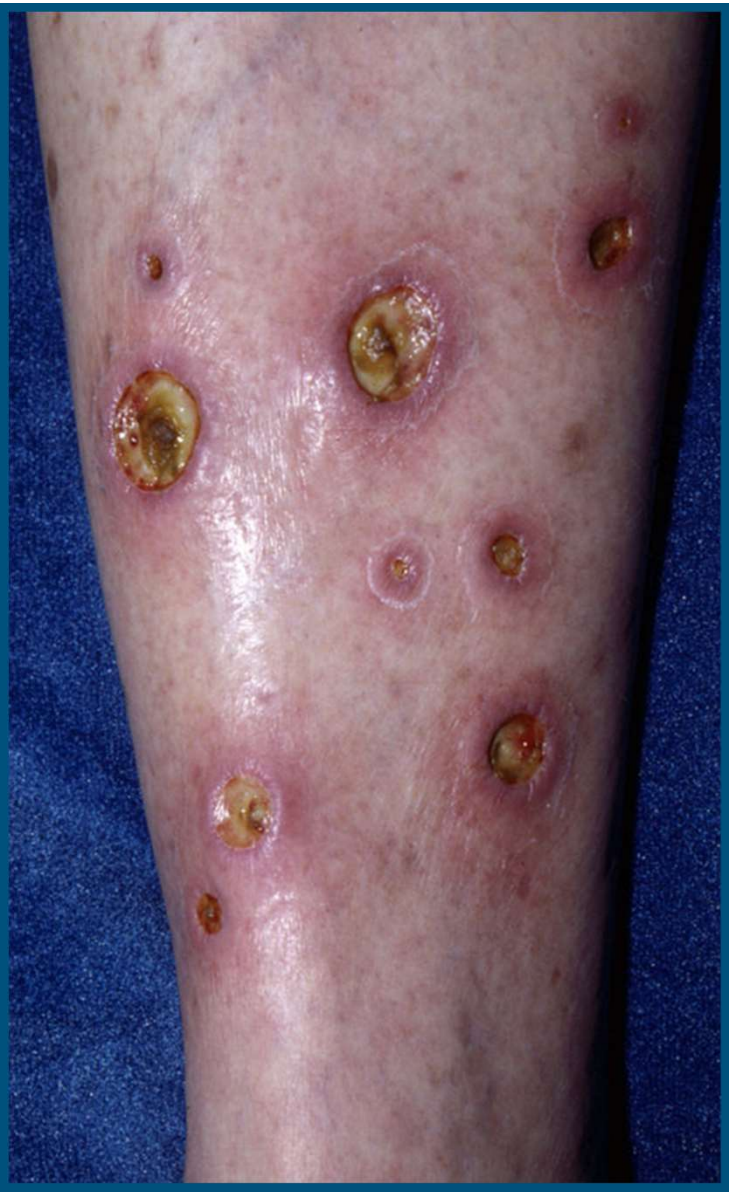
- Microvascular occlusion by calcium and associated thrombosis
- *Chronic renal failure, haemodialysis, hyperparathyroidism
- DM, liver disease, SLE, IBD, warfarin, prednisone
- Fat-bearing areas (abdomen, buttocks, thighs)
- Painful, violaceous, retiform patches, plaques > necrosis, ulcer
- Rx. IV sodium thiosulfate

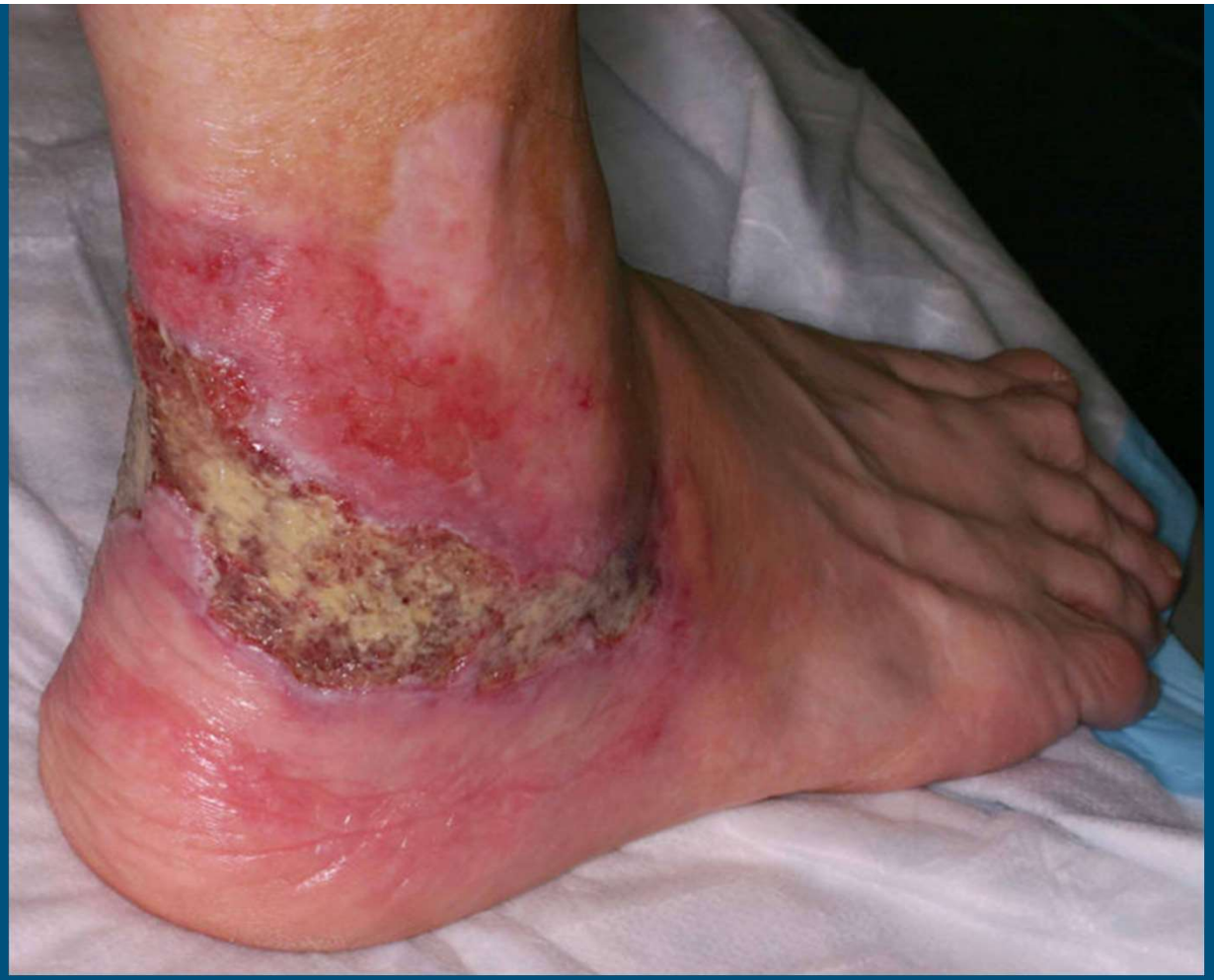






Sydney funnel-web spider

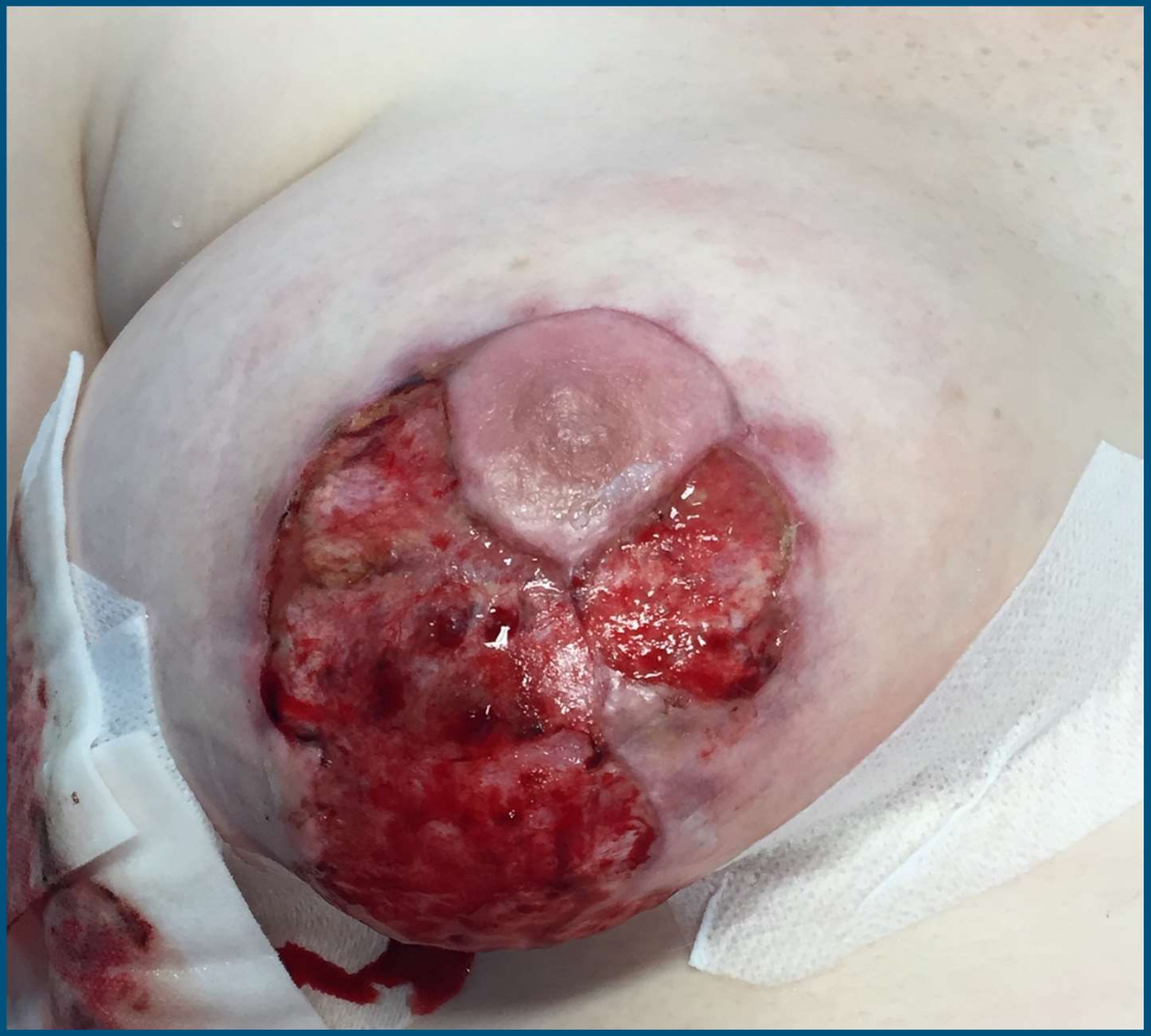




Dermatitis Artefecta (DA)

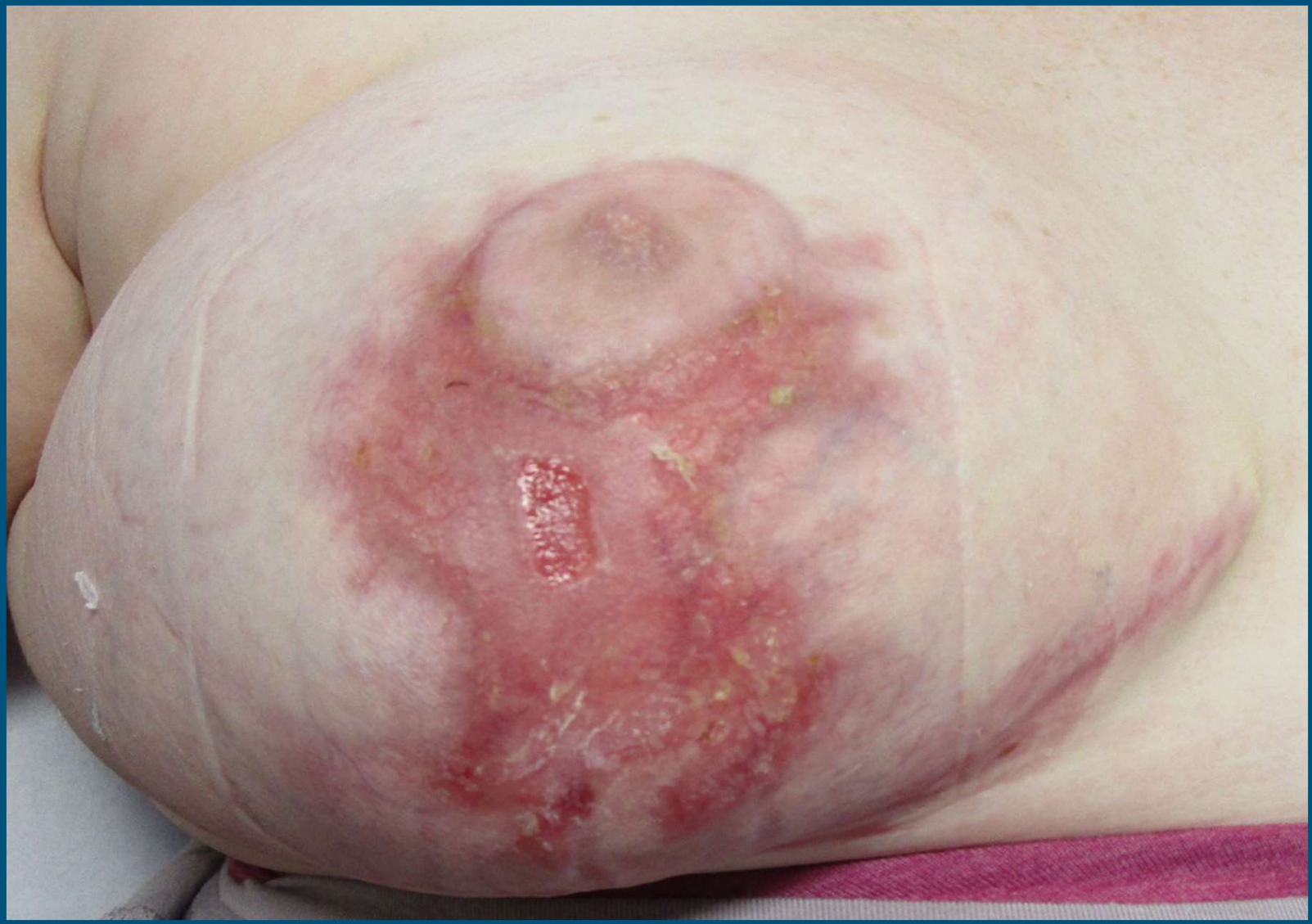
Case

- 21 yo female, breast reduction surgery for macromastia
- Oroxine, vitamin D supplements
- Otherwise well
- 3 weeks postop: Wound came apart
- Swab negative, resutured with different sutures
- Same thing following week



? pyoderma gangrenosum
? atypical infection

Prednisone + cyclosporine



J Plast Reconstr Aesthet Surg. 2018 Jul;71(7):1023-1032. doi: 10.1016/j.bjps.2018.03.013. Epub 2018 Mar 28.

Pyoderma gangrenosum after breast surgery: A systematic review

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Background: Post-surgical pyoderma gangrenosum (PSPG) is a rare inflammatory skin disorder of unknown aetiology. Given its similar presentation to wound infection and lack of reliable diagnostic tests as well as pathognomonic clinical features, PSPG is difficult to diagnose. The aim of this review was to identify factors contributing to PSPG to aid with timely diagnosis and appropriate therapy.

- Median time to diagnosis 12.5 days
- Median treatment 4.7 months


NO MORE FLEAS... BUT I DON'T LIKE THE LOOK OF THAT MOLE...
THE FIRST DERMATOLOGIST