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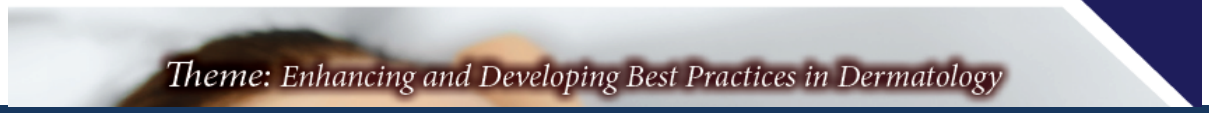
SEPTEMBER 18-20, 2017 IN SAN ANTONIO, USA



BACTERIAL SKIN INFECTIONS

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MRSA INFECTIONS

- **Concept: Methicillin-resistant Staphylococcus aureus**
- **Epidemiology: Gradual increase of resistance.**
- **Nosocomial MRSA risk factors: Hospitalization, ICU, invasive procedures, previous antibiotic therapy, health professionals, diabetes mellitus, EV drugs, immunosuppression and chronic diseases.**

MRSA INFECTIONS

- **Community MARSA risk factors: Children, EV drugs, indigenous, homosexual men, military, prisoners and athletes.**
- **Microorganisms more virulent by genetic characteristics.**

MRSA INFECTIONS

- **Clinic caracteristics:**

-Abscess, cellulitis, folliculitis, impetigo, infected wounds, external otitis, paronychia and colonization of the skin in cases of atopic dermatitis.

- Increased morbidity.

- **Propedeutics: Culture blood, tissue or secretion.**

MRSA INFECTIONS

- **Treatment:**

- **Pathology-specific treatment.**
- **Prefer non-beta-lactam antibiotics, such as: clindamycin, sulfamethoxazole-trimethoprim and tetracyclines.**
- **On suspicion of MARSA infection, start empirical antibiotics and stagger specific antibiotics by culture with antibiograma.**

MRSA INFECTIONS

- **Treatment:**

- **Decolonization: systemic antibiotic therapy, topical 2% mupirocin, personal hygiene with antiseptic or antimicrobial solutions (iodine-povidine, chlorhexidine or triclosan).**

MRSA INFECTIONS

- **Prevention:**

- Avoid skin-to-skin contact and share personal belongings / clothing.

- Hand washing.

- Use of alcohol gels.

- Cover wounds.

- Isolation contact of MARSA carriers.

- Early treatment.

ERISIPELA AND CELULLITE

- **Concept:**

- Erysipelas is a bacterial infection of the dermis with lymphatic involvement that is frequently found in the lower limbs and face.

- Cellulite: It is the extension of the process above to the subcutaneous tissue.

- **Etiology: Streptococcus and S. aureus.**

ERISIPELA AND CELULLITE

- **Epidemiology:**

- Incidence: 2: 1.000 / year.

- Location: lower limbs (85%) and face (10%).

- Gender: Female more affected.

- Risk factor: Obesity, erysipelas / cellulitis recurrence, Peripheral venous insufficiency and diabetes.

ERISIPELA AND CELULLITE

- **Epidemiology:**

- Entrance door: interdigital interdigital, dermatophytosis and lower limb ulcers.

ERISIPELA AND CELULLITE

- **Erisipela-> Clinic caracteristics:**
- **Incubation period: 2-5 days.**
- **Sudden onset and systemic signs / symptoms (fever, chills, nausea and malaise).**
- **Cutaneous changes with sharp edges, such as: phlogistic signs, progressive enlargement, blisters, vesicles and hemorrhagic areas.**

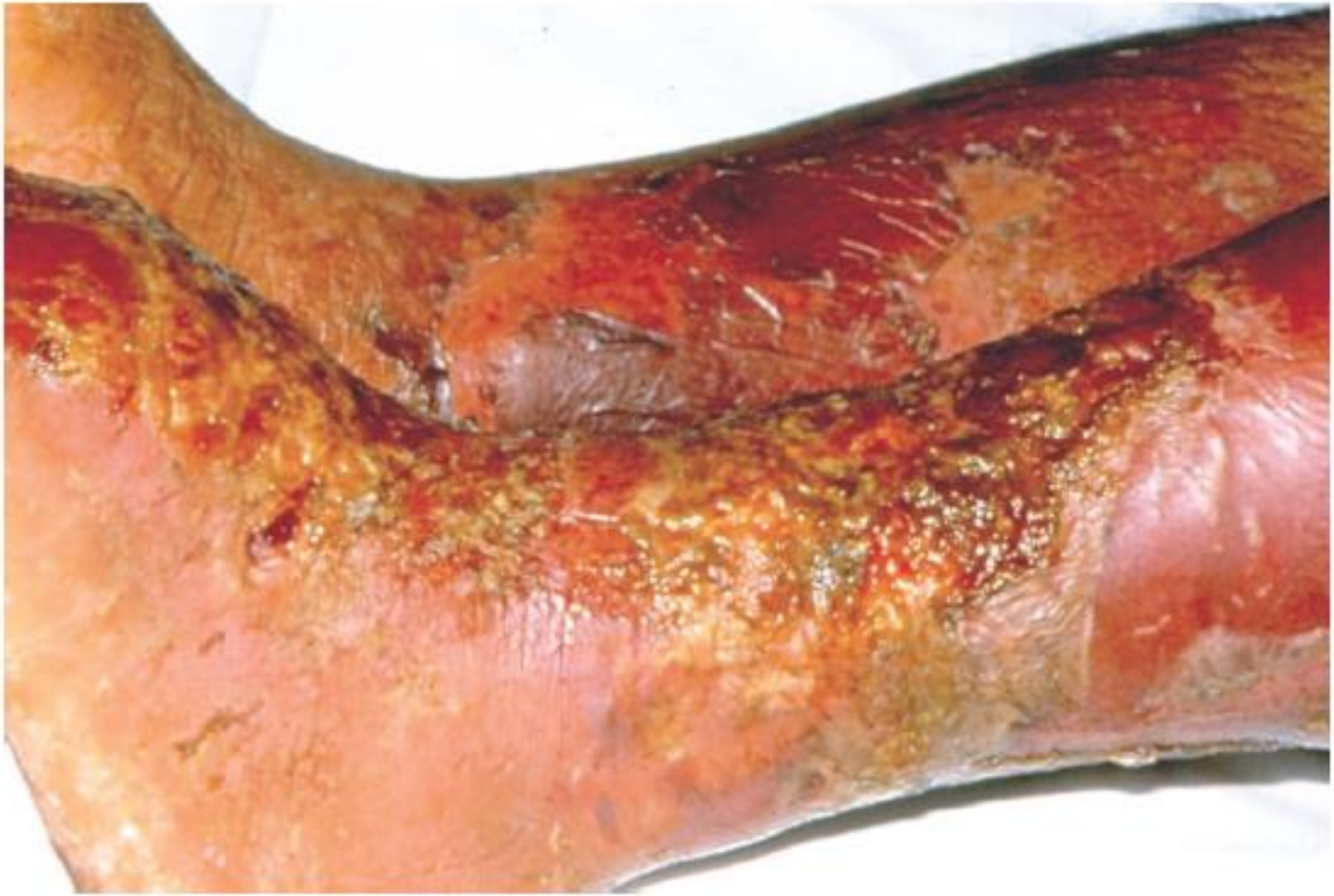


Figura 53.23 Erisipela de membro inferior.

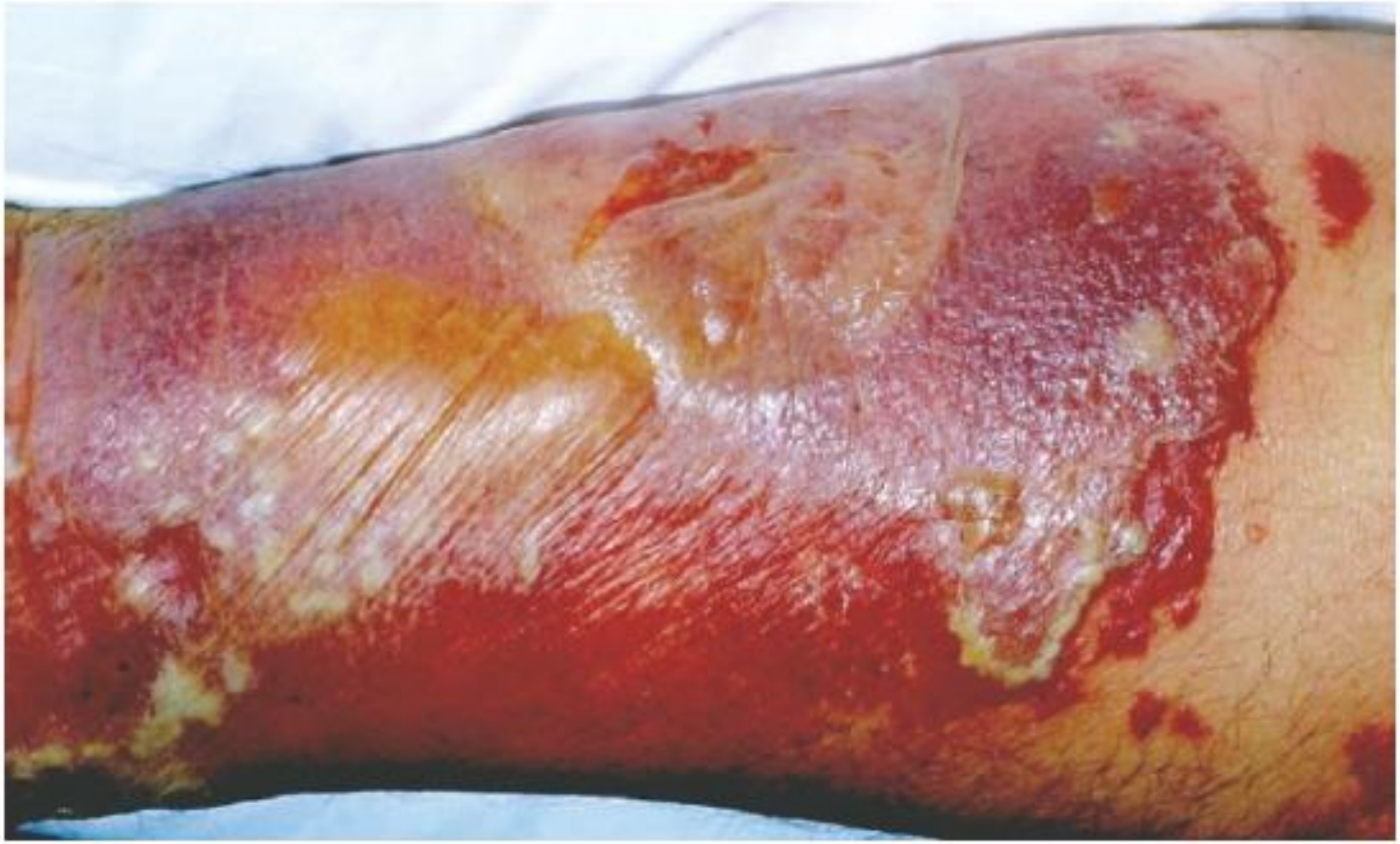


Figura 53.24 Erisipela bolhosa de perna.

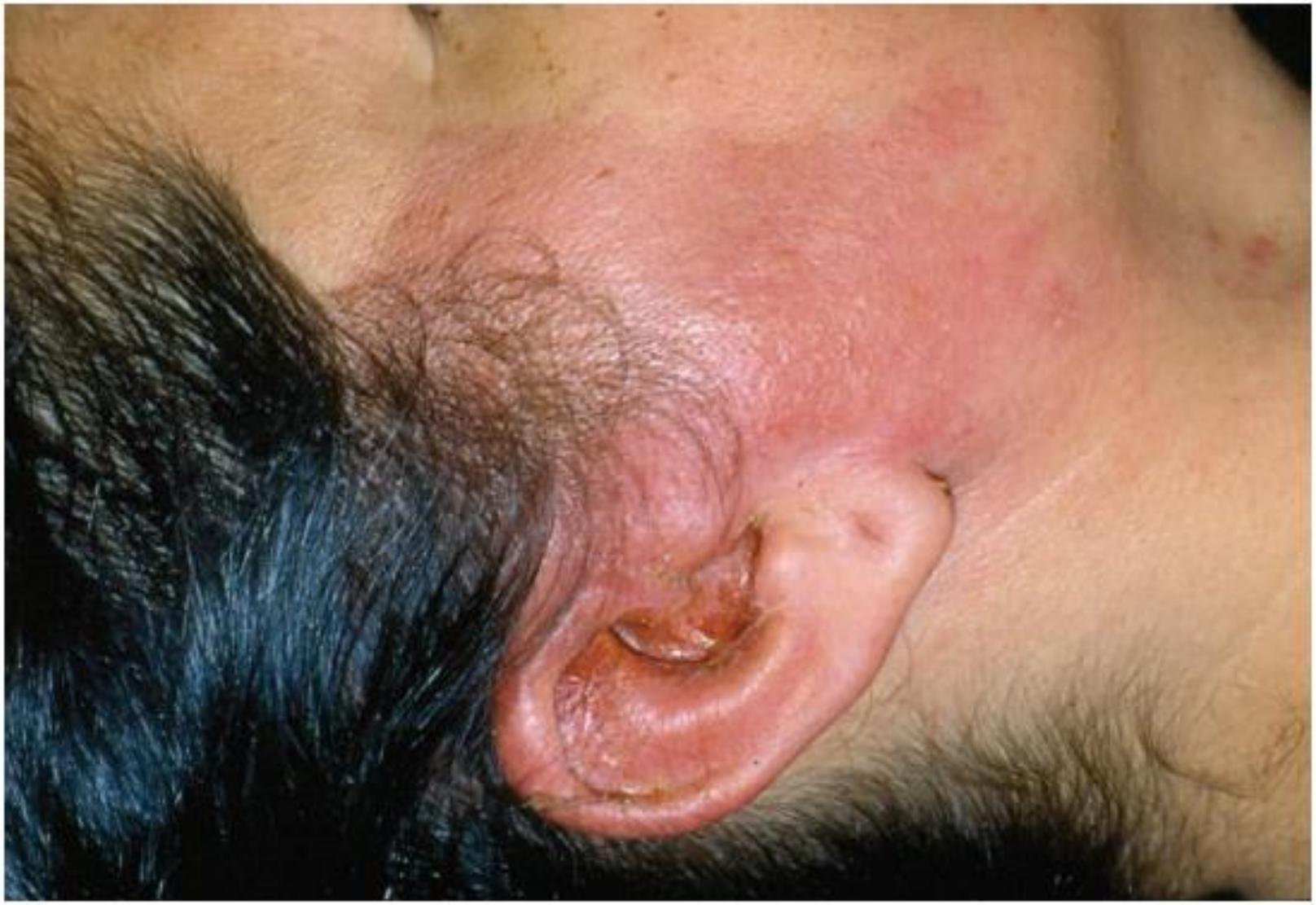


Figura 53.25 Erisipela de face.

ERISIPELA AND CELULLITE

- **Celullite-> Clinic caracteristics:**
- **Systemic signs/symptoms (fever, chills, nausea and malaise).**
- **Skin damage with imprecise borders, such as: phlogistic signs, blisters, vesicles, pustules and necrotic tissues.**

ERISIPELA AND CELULLITE

- **Erisipela\Celullite-> Clinic caracteristics:**
- **After antibiotic onset, progressive improvement after 2 days and complete resolution in 2 weeks.**
- **Delayed treatment increases complications.**
- **Complication: Abscess, necrosis and DVT.**
- **Relapses: inadequate antibiotic therapy and persistence of risk factors.**

ERISIPELA AND CELULLITE

- **Diagnosis:**

- Clinic caracteristics of the patient.

- Propedeutic (severe cases): Hemogram, blood cultures, wound culture (blister, needle punction or biopsy), swab interdigital spaces and dosage of anti-streptolysin O (group A beta-hemolytic streptococcus label).

ERISIPELA AND CELULLITE

- **Treatment:**

- Rest and lift lower limb.

- Prophylactic antibiotic therapy in relapses: Penicillin G benzathine 2,4 million IU 3/3 weeks or erythromycin 250mg twice daily.

- Treating risk factors.

- Emollients on the lesions.

ERISIPELA AND CELULLITE

- **Treatment of erysipelas:**

- Penicillin G 0.6-1.2 million Units IM twice daily and Cefalexin 500mg 6 / 6hs 10-14 days.

- Hospitalization in children and immunocompromised cases.

ERISIPELA AND CELULLITE

- **Cellulite treatment:**

- Minimum duration of 10 days.

- Cephalexin 500mg VO 6 / 6hs and oxacillin 1G EV 4 / 4hs.

- Severe cases: Vancomycin or linezolid.

- Immunocompromised hospitalization and chronic disease

- Children younger than 3 years: Ceftriaxone.

NECROTIZING FASCIÍTE

- **Concept: Severe infectious characterized by rapidly progressive necrosis of the subcutaneous and muscular fascia.**
- **Epidemiology: High mortality.**
- **Risk factors: obesity, immunosuppression, drug addiction, diabetes mellitus, recent surgeries and traumatic wounds.**
- **Location: lower limbs, perineum and abdominal wall.**

NECROTIZING FASCIÍTE

- **Etiology:**

- Type I: Polymicrobial (Aerobic and anaerobic). Associated with diabetes mellitus, surgical procedure or infected wound.

- Type II: Community infection, mainly group A streptococcus. Most common form of necrotizing fasciitis. It affects young and healthy.

NECROTIZING FASCIÍTE

- **Clinic caracteristics :**

- Beginning of the picture: Erythema, edema, heat and subcutaneous hardened even beyond the area of erythema. Pain disproportionate to physical examination findings.

- Second stage: Toxemia and sensory reduction. Blue-gray skin and blisters.

NECROTIZING FASCIÍTE

- **Clinic caracteristics:**

- **Final stage:**

--Bleeding, purulent, foul-smelling blisters.

--Local anesthesia. Creping on the palpation of the skin.

-- Septic shock with multiple organ failure.

NECROTIZING FASCIÍTE

- **Diagnosis:**

- It is clinical and surgical.

- Radiological examinations can help identify which muscle is involved.

- Propedeutics: surgical culture material and blood, antibiogram, gram of secretion, CPK, lactate, coagulogram, ions, blood gases and hemogram.

NECROTIZING FASCIÍTE

- **Treatment:**

- Clinical support.

- Early surgical debridement.

- Broad spectrum empirical antibiotic therapy followed by gram and cultured secretion antibiogram study.

NECROTIZING FASCIÍTE

- **Treatment:**

- Antibiotic therapy: Carbapenems or betalactamases inhibitors (pipe-tazo and ampi-sulbactam) associated with clindamycin or Antibiotic for MARSA (vancomycin and linezolid).

- Duration: depends on the clinical picture.

ERYSIPELOID

- **Concept: Acute cutaneous infection caused by the gram-positive bacillus Erysipelothrix rhusiopathiae.**
- **Epidemiology:**
- **Bacteria found in soil and animals.**
- **Human contamination when having direct contact with contaminated food or objects. Risk group: Butcher, fisherman, housewife and veterinarian**

ERYSIPELOID

- **Clinic caracteristics:**

- Localized skin infection (erysipeloid):

-- More common shape.

-- Incubation period from 1 to 7 days.

--Lesions with purpuric or violet coloration, painful and warm with well-marked and raised margins. Location in hands. Self-limiting table in a period of 2 weeks.

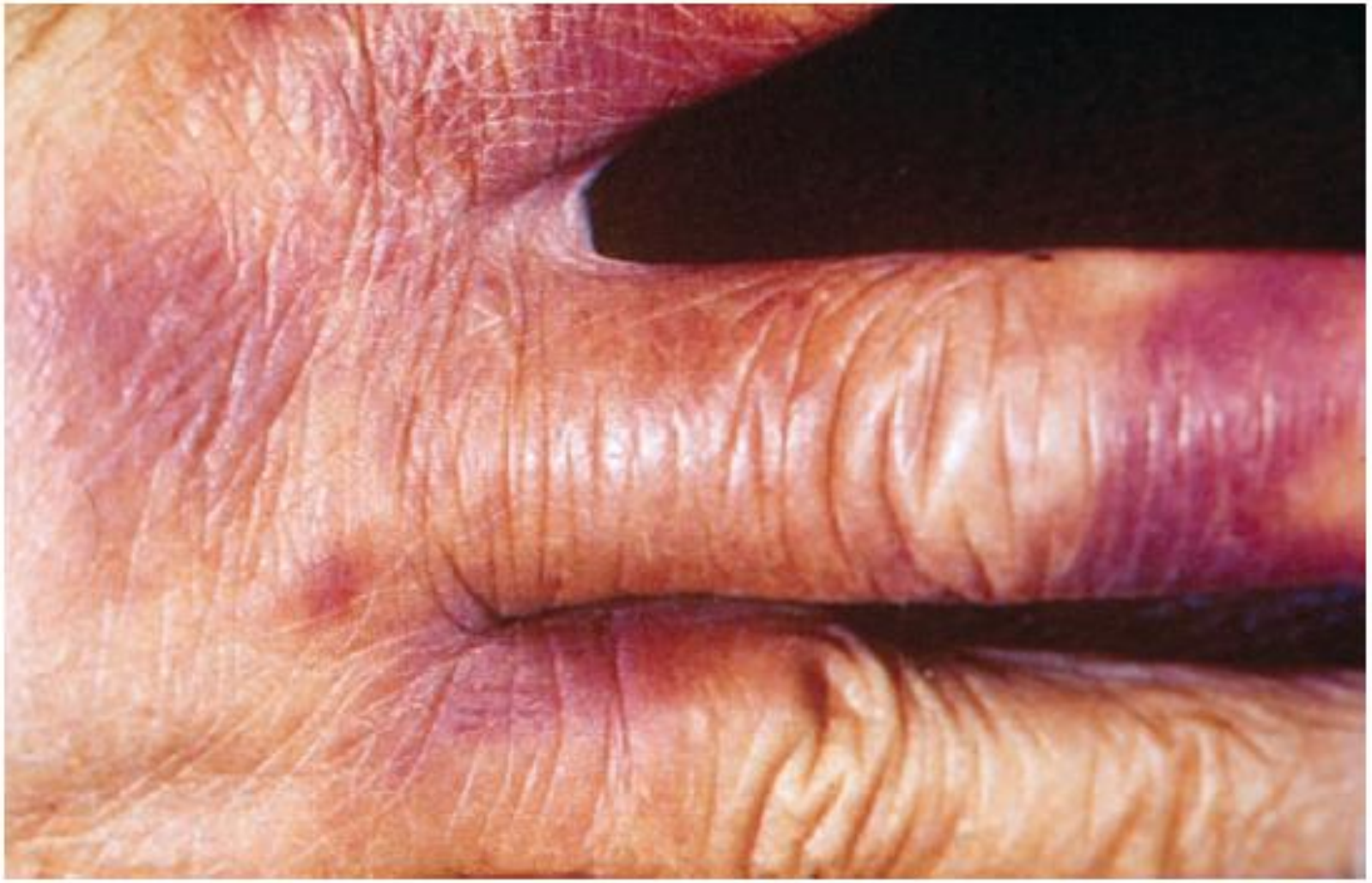


Figura 53.26 Erisipeloide – lesão purpúrica.

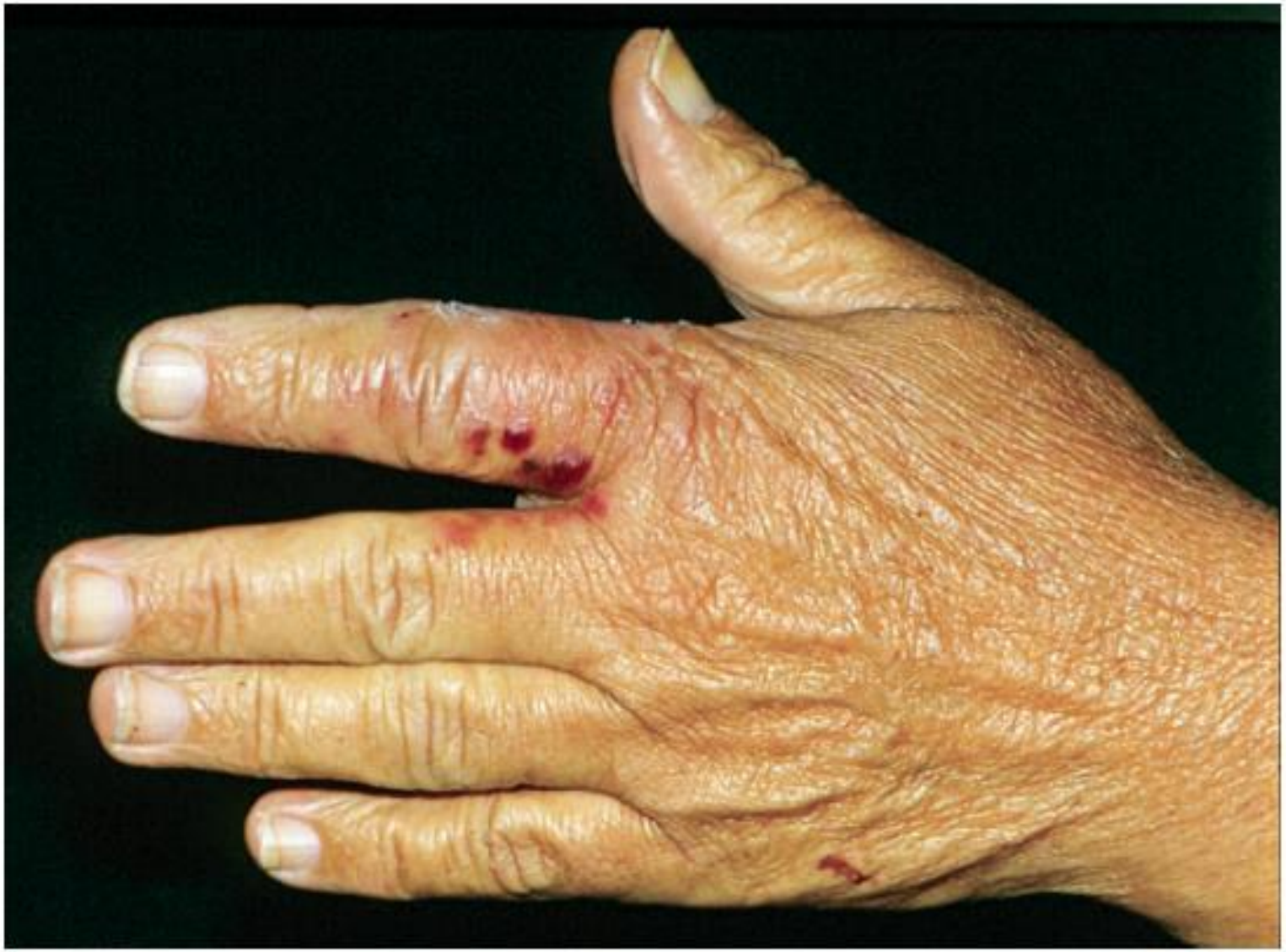


Figura 53.27 Erisipeloide – lesão purpúrica no dedo da mão.

ERYSIPELOID

- **Clinic caracteristics:**
- **Diffuse cutaneous form:**
- **--Different parts of the body.**
- **- Spontaneous resolution and frequent recurrences.**
- **--Negative cultures.**

ERYSIPELOID

- **Clinic caracteristics:**

- **Generalized infecction:**

--Septic artritys, bone necrosys, brain stroke, pleural efflusion e bacterial endocarditys. Fever e wheigt loss.

--Polimorfic skin lesions with central necrotc areas and elevated borders.

--Positive hemocultures.

ERYSIPELOID

- **Diagnosis:**
- **Clínic and epidemiologic.**
- **Skin lesions or aspirate Gram study.**
- **Biopsy for culture e for histopathology.**
- **Histopathology: Vasodilatation of dermic papiles and a inflamatory infiltration with neutrophils and eosinophils with dermic perivascular distribution.**

ERYSIPELOID

- **Treatment:**

- **Penicillin, erythromycin and ciprofloxacin.**

ERYTHRASMA

- **Concept: Localized chronic superficial skin infection.**
- **Etiology: Gram-positive bacillus Corinebacterium minutissimum.**
- **Epidemiology: It is frequent in tropical climate and in adult men. Most common bacterial infection of the feet.**

ERYTHRASMA

- **Risk factors: Obesity, diabetes, lack of hygiene, hyperhidrosis and immunodepression.**

- **Clinic caracteristics:**

- **It affects areas with maceration and Humidity : underarms, inframammary, intergluteal, groin and interdigital.**

ERYTHRASMA

- **Clinic caracteristics:**

- **Erythrasma interdigital: Chronic asymptomatic maceration with desquamation cracks interdigital (3rd and 4th Interdigital Spine).**
- **It is usually associated with candidiasis or dermatophyte in 30% of cases.**

ERYTHRASMA

- **Clinic caracteristics:**
- **Initial caracteristics: Well-defined lesions of irregular shape, reddish coloration and asymptomatic.**
- **Progression: Brownish lesions, fine scaling and slightly raised bordes.**
- **It may cause pruritus in the perianal region.**

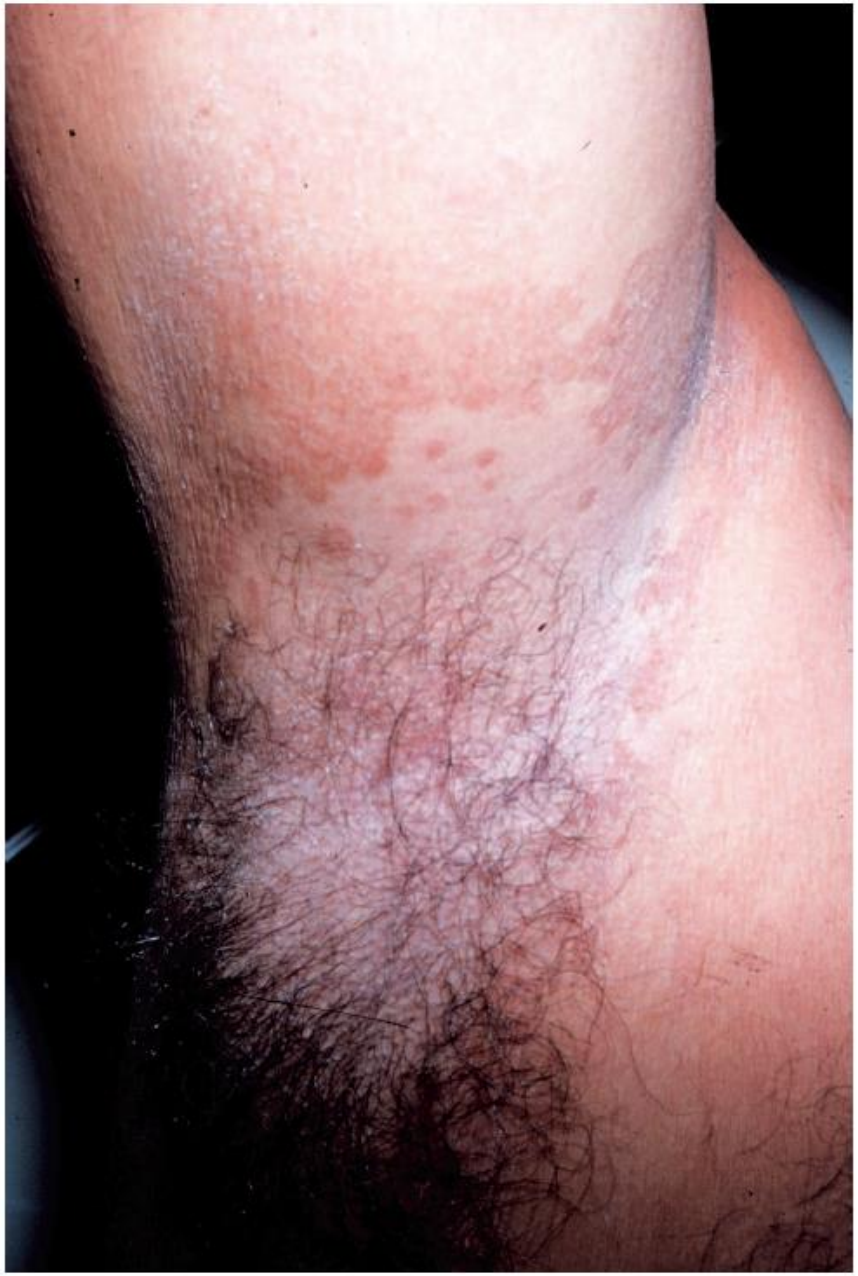


Figura 53.28 Eritrasma – lesões eritematosas da axila.

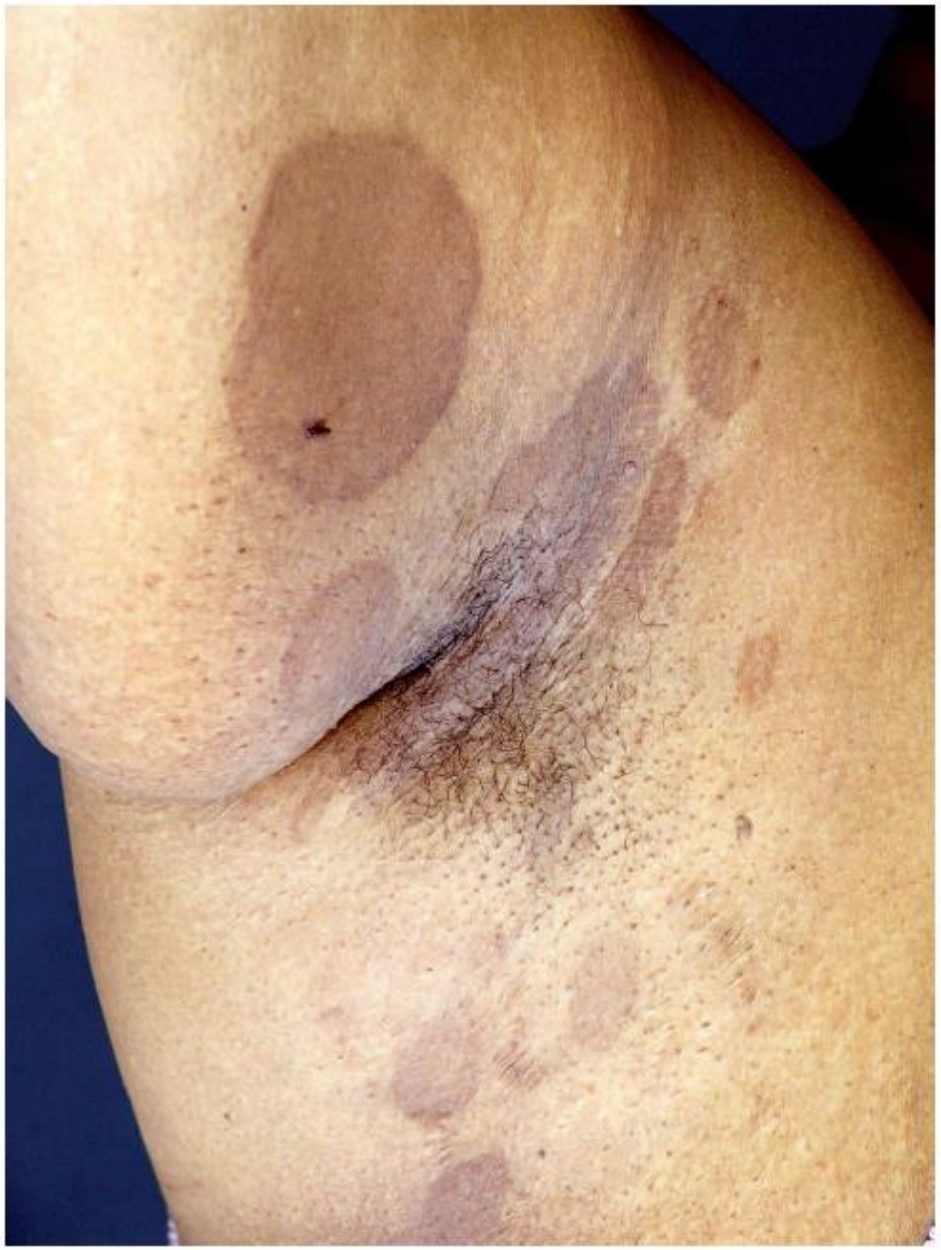


Figura 53.29 Eritrasma – lesões acastanhadas.

ERYTHRASMA

- **Diagnosis:**

- **Direct examination of the scales of the lesion with KOH and stained by the gram: Small coccoid forms and long filaments.**
- **Wood lamp: Red-coral fluorescence.**

ERYTHRASMA

- **Topic treatment:**
- **Ceratolytics: Salicylic acid 2 or 4%**
- **Imidazolic topical.**
- **Clindamycin 2%.**
- **Erythromycin 2%.**
- **Fusidic acid.**

ERYTHRASMA

- **Sistemic treatment:**
- **Single dose clarithromycin.**
- **Erythromycin 250mg VO 6 / 6hs 14 days.**

- **Prophylaxis:**
- **- Antiseptic soaps and avoid risk factors.**

PSEUDOMONES INFECTION

- **Etiology: Pseudomonas aeruginosa- gram negative bacillus of low virulence.**
- **Primary cutaneous infection: healthy individuals with loss of skin barrier and good prognosis.**
- **Skin manifestations secondary to septicemia: Immunocompromised are affected and have a worse prognosis.**

SYNDROME OF THE GREENED NAILS

- **Etiology: Pseudomonas aeruginosa.**
- **Risk factor: Humidity and nail trauma.**
- **Risk group: Hairdresser and housewife.**
- **Clinic caracteristics: Painful paronychia with greenish nail.**
- **Diagnosis: Clinic + gram + culture.**
- **Treatment: Polimixin and bacitracin 6/6hs in solution for 4 months. Avoid humidity.**

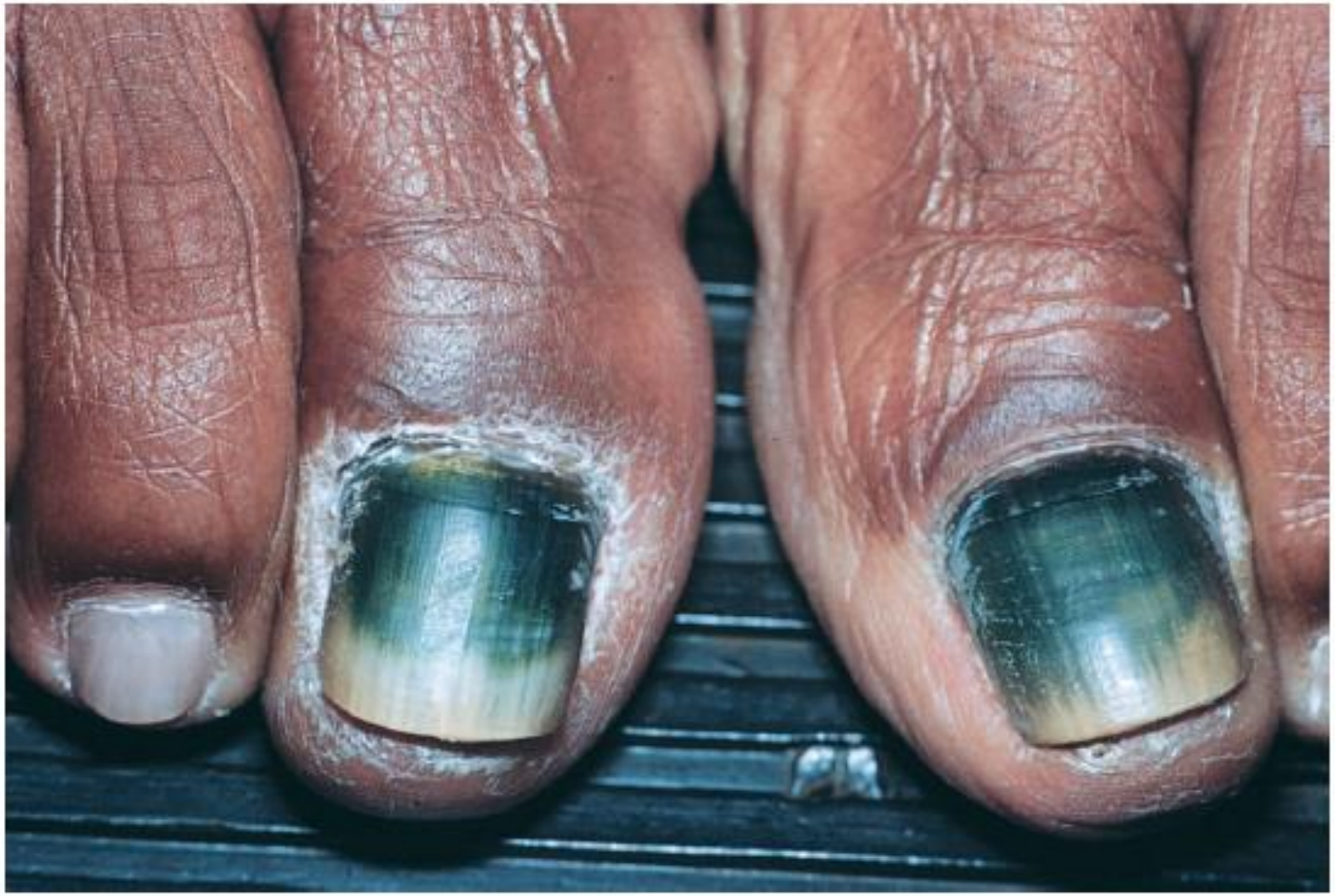


Figura 53.31 Unhas esverdeadas por *Pseudomonas*.

SCARLATINA

- **Concept: Acute disease caused by Group A beta-hemolytic Streptococcus exotoxins.**
- **Epidemiology: Endemic in large centers. Common in children aged 1-10 years.**
- **Clinic caracteristics:**
- **- Upper airways are the gateway through contaminated droplets.**

ESCARLATINA

- **Clinic caracteristics:**
- **Incubation period 2-5 days.**
- **Membranous tonsillitis associated with painful cervical lymphadenopathy.**
- **Sixth day: beginning exfoliative rash with sanding appearance with capillary fragility. Oral paleness.**
- **Tenth day: Discoloration disappears with lamellar palmoplantar desquamation.**

ESCARLATINA

- **Clinic caracteristics:**
- **Fever, nausea, vomiting, abdominal pain and tongue in raspberry.**
- **Diagnosis:**
- **Clinic caracteristics + elevation ASLO + pharyngeal culture + leukocytosis with deviation to left**
- **Treatment: Penicillin G benzathine, amoxicillin and erythromycin.**

LINFANGITE

- **Concept: Inflammation of lymphatic vessels, usually of bacterial origin.**
- **Etiology: Beta-hemolytic Streptococcus or S. aureus both coagulase-positive, which enter the lymphatic through trauma.**

LINFANGITE

- **Clinic caracteristics: Systemic reaction. Erythema from local inoculation to regional lymph nodes, which are swollen and painful.**
- **Diagnosis: Clinic caracteristics + blood count + culture.**
- **Treatment: systemic antibiotic therapy, resting and elevated limbs.**

BOTHRIOMYCOSIS

- **Etymology: Botrio (grape clusters) and mycosis (fungi infection).**
- **Synonymy: Staphylococcal actinophytosis, actinobacillosis and granular bacteriosis.**
- **Etiology: S. aureus and other bacteria.**
- **Risk factor: Immunodepression and patients with chronic diseases.**

BOTHRIOMYCOSIS

- **Immunology: Bacteria in symbiosis with the host. Defects of immunity.**
- **Clinic caracteristics:**

- **Chronic, granulomatous and suppurative infection that affects skin, soft tissues and bones by contiguity. It can affect viscera.**
- **Skin: nodules, ulcers, verrucous plaques and fistulas that drain purulent secretion em mãos e pés.**

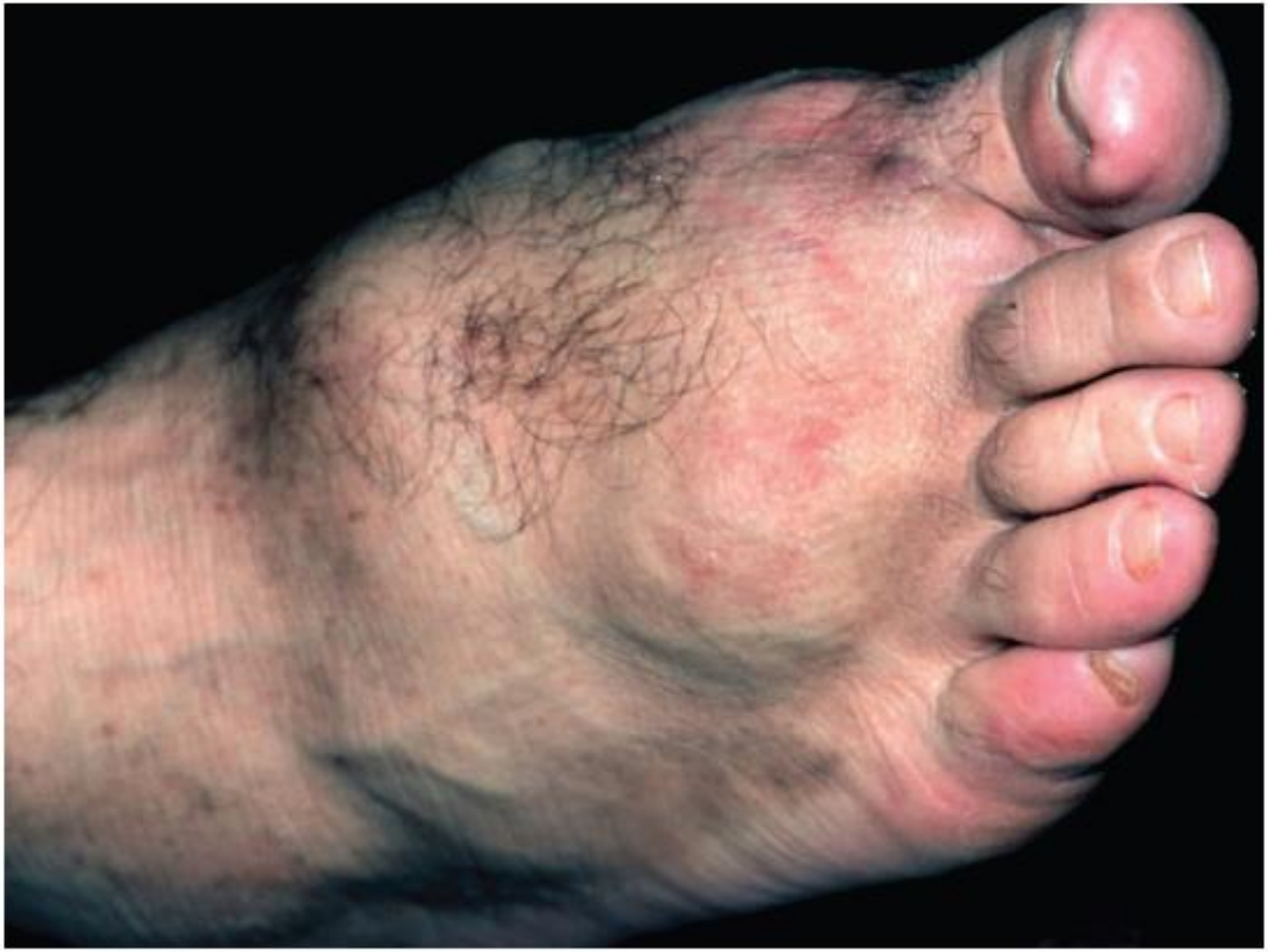


Figura 53.35 Botriomicose.

BOTHRIOMYCOSIS

- **Diagnosis:**

- Histopathology:

- Basophilic grains surrounded by hyaline material stained by gram.

- Phenomenon of Splendore-Hoeppli.

-Culture secretion for bacteria and fungi.

-Radiology examinations.

BOTHRIOMYCOSIS

- **Treatment:**

Sulfamethoxazole-trimethoprim, minocycline, erythromycin, dapsone and cefazolin for long periods.

CAT SCRATCH DISEASE

- **Etiology: Bartonella henselae- Strongly argirophic gram negative sticks.**
- **Epidemiogia: Rare. There are mild and authoritarian cases.**
- **Reservoirs: Cats and other felines that are contaminated by cat fleas.**
- **Transmission to humans: Licking or biting the cat.**

CAT SCRATCH DISEASE

- **Clinic caracteristics:**

- **The most common bartonellosis.**
- **Cutaneous lesions begin 3-5 days after trauma such as erythematous papules and vesicles that develop into ulcers and regress with residual macules.**
- **Painful unilateral lymph node enlargement with possibility of suppuration.**
- **Mild constitutional symptoms and fever.**

CAT SCRATCH DISEASE

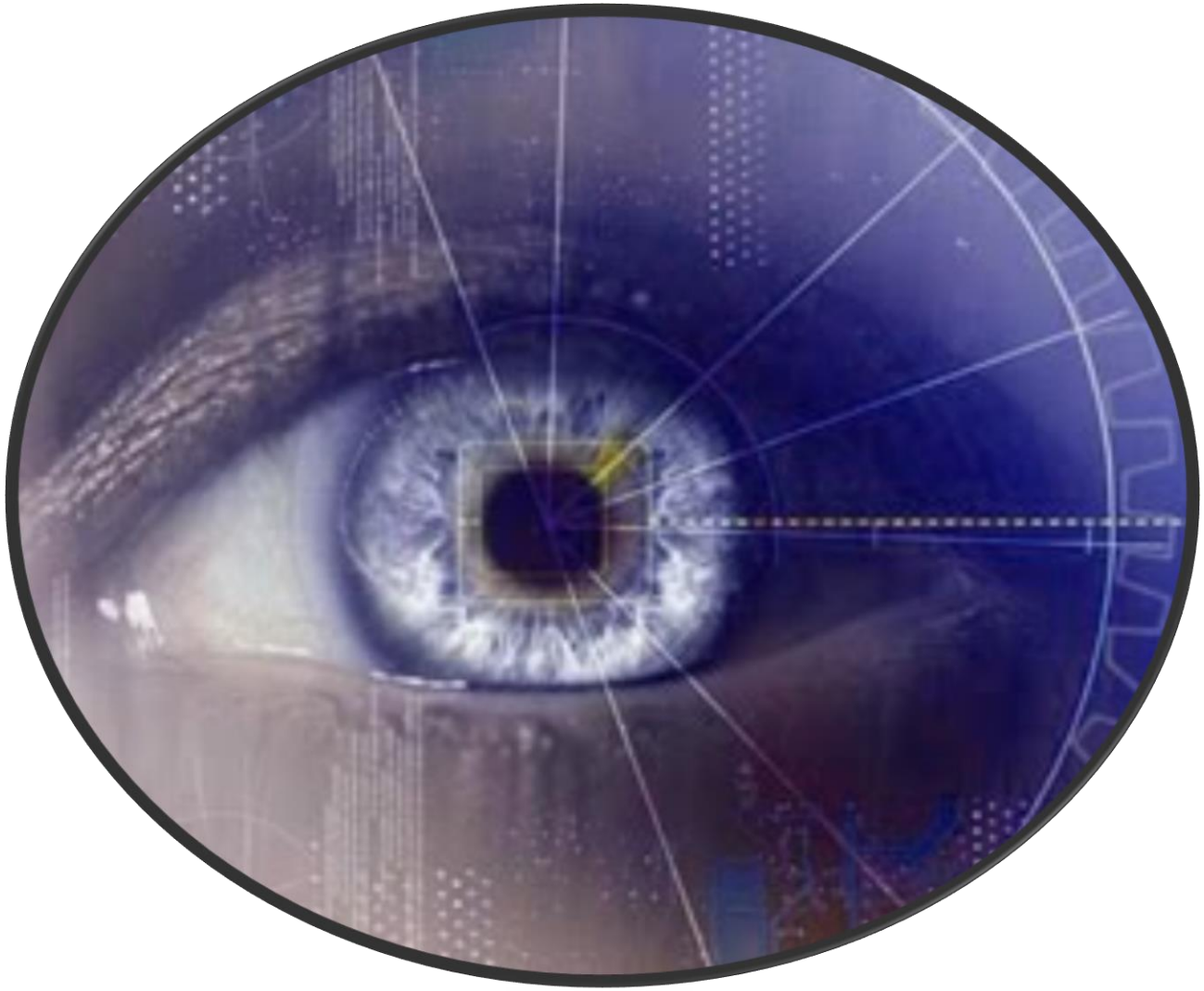
- **Diagnosis:**
- **Histopathology of the skin and lymph nodes: Granulomatous infiltrate of lymphocytes, histiocytes and neutrophils with central necrotic area and pleomorphic bacilli strongly stained by silver in Warthin-Starry coloration.**
- **Serological test - Elisa.**
- **Culture and PCR - hardly accessible.**

CAT SCRATCH DISEASE

- **Treatmet:**

- **Doxycycline VO 100mg twice a day associated with rifampicin 60mg once a day or ciprofloxacin 500mg twice a day or azithromycin 500mg once a day.**

CONCLUSION



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THANK YOU!

DOUBTS?

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