3- Subcutaneous Mycoses

Mycoses that penetrate the epidermis and the dermis to infect deeper tissues are called subcutaneous mycoses.

a- Sporotrichosis :

Sporotrichosis also known as rose gardener's disease is a chronic mycotic infection of the cutaneous or subcutaneous tissues and adjacent lymphatic's characterized by nodular lesions which may suppurate and ulcerate. Infections are caused by the traumatic implantation of the fungus into the skin, or very rarely, by inhalation into the lungs.

Clinical manifestations:

1- Fixed cutaneous sporotrichosis:

Primary lesions develop at the site of implantation of the fungus, usually at more exposed sites mainly the limbs, hands and fingers. Lesions often start out as a painless nodule which soon become palpable and ulcerate often discharging a serous or purulent fluid. Importantly, lesions remain localised around the initial site of implantation Isolates from these lesions usually grow well at 35˚C, but not at 37˚C .

Figure (1) Fixed cutaneius sporotrichosis showing an ulcerating lesion on the leg

2- Lymphocutaneous sporotrichosis:

The primary lesion start out as painless nodules which soon become palpable and ulcerate. No systemic symptoms are present. Isolates from these lesions usually grow well at both 35˚C and 37˚C.

Figure(2) Lymphocutaneous sporotrichosis showing typical elevated subcutaneous nodules

3- Pulmonary sporotrichosis:

This is a rare entity usually caused by the inhalation of conidia . Symptoms are nonspecific and include cough, sputum production, fever, weight loss and upper-lobe lesion. Haemoptysis may occur and it can be massive and fatal. The natural course of the lung lesion is gradual progression to death .

4- Osteoarticular sporotrichosis:

Most patients also have cutaneous lesions and present with stiffness and pain in a large joint, usually the knee, elbow, ankle or wrist. Osteomyelitis seldom occurs without arthritis; the lesions usually confined to the long bones near affected joints .

Laboratory diagnosis:

A tissue biopsy is the best specimen.

1- Direct Microscopy:

Tissue sections should be stained using PAS digest, Grocott's methenamine silver (GMS) or Gram stain.

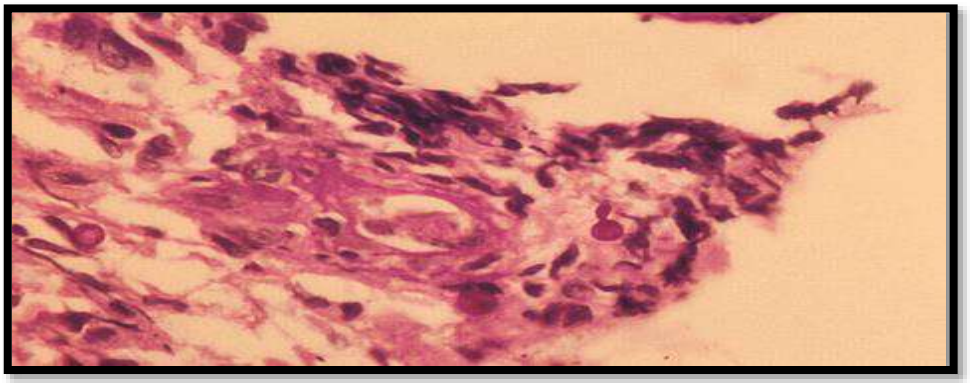


Figure (3) Section from a fixed cutaneous lesion showing budding yeast-like cells. Sporothrix

2- Culture:

Clinical specimens should be inoculated onto primary isolation media, like Sabouraud's dextrose agar and Brain heart infusion agar supplemented with 5% sheep blood .

b- Chromoblastomycosis

A mycotic infection of the cutaneous and subcutaneous tissues characterised by the development in tissue (brown-pigmented), . Infections are caused by the traumatic implantation of fungal elements into the skin and are chronic, slowly progressive and localised. Tissue proliferation usually occurs around the area of inoculation producing crusted, wart-like lesions. The species Fonsecaea pedrosoi and Cladophialophora carrionii are prevalent in regions where the disease is endemic .

Clinical Manifestations:

Lesions of chromoblastomycosis are most often found on exposed parts of the body and usually start a small scaly papules or nodules which are painless but may be itchy. the disease develops rash-like areas enlarge and become raised irregular plaques that are often scaly , lesions may become tumorous and even cauliflower-like in appearance. Other prominent features include epithelial hyperplasia, fibrosis and microabscess formation in the epidermis.

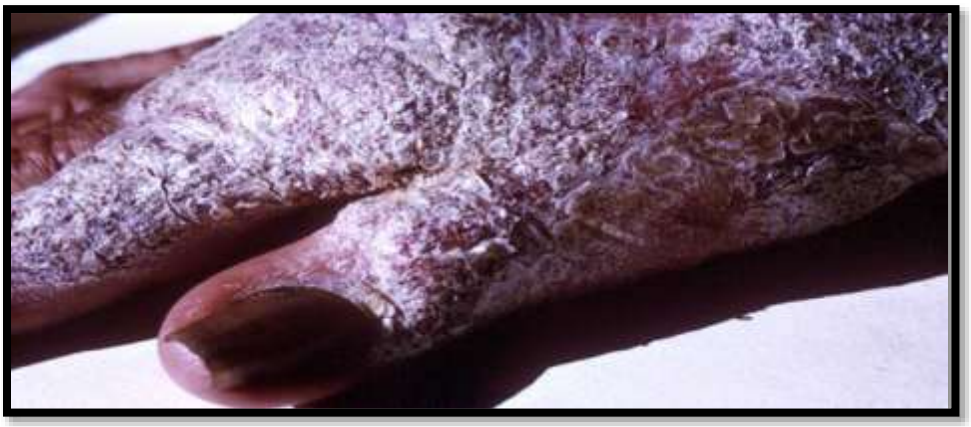


Figure (4) Chronic chromoblastomycosis of the hand due Cladophialophora carrionii

Laboratory Diagnosis:

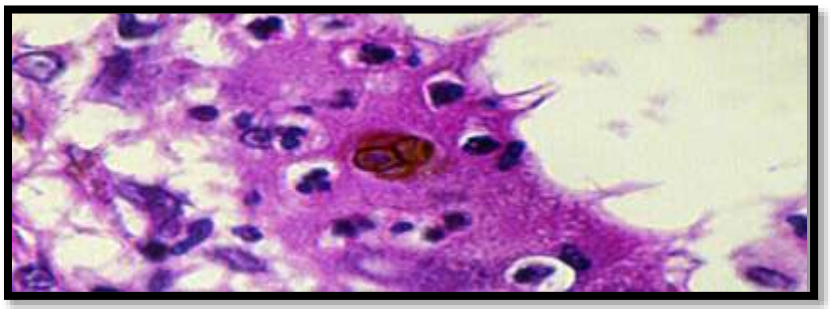
By Skin scrapings and/or biopsy.

1- Direct Microscopy:

(a) Skin scrapings should be examined using 10% KOH and Parker ink or calcofluor white mounts, to see round Sclerotium bodies.

Figure (5) Skin scrapings from a patient with chromoblastomycosis mounted in 10% KOH, rounded Sclerotium bodies.

(b) Tissue sections should be stained using H&E, PAS digest, and Grocott's methenamine silver (GMS), to see round sclerotic bodies.



Figure(6) H&E stained section showing characteristic dark brown ,rounded Sclerotium bodies.

2- Culture

Clinical specimens should be inoculated onto primary isolation media, like Sabouraud's dextrose agar with Cycloheximide .

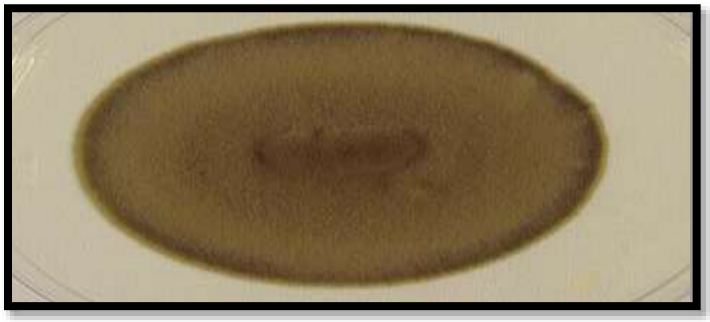


Figure (7) Chromoblastomycosis Sabouraud's dextrose agar