



ASSIUT UNIVERSITY DRUG INFORMATION BULLETIN



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Seborrheic Dermatitis

Seborrheic dermatitis is a papulosquamous disorder patterned on the sebum-rich areas of the scalp, face, and trunk. In addition to sebum, this dermatitis is linked to *Malassezia*, and immunologic abnormalities. It is commonly aggravated by changes in humidity, changes in seasons, trauma (e.g., scratching), or emotional stress. The severity varies from mild dandruff to exfoliative erythroderma. Seborrheic dermatitis may worsen in Parkinson disease and in AIDS.



Pathophysiology

Seborrheic dermatitis is associated with normal levels of *Malassezia* but an abnormal immune response. Helper T cells, phytohemagglutinin and concanavalin stimulation, and antibody titers are depressed compared with those of control subjects. The contribution of *Malassezia* species to seborrheic dermatitis may come from its lipase activity—releasing inflammatory free fatty acids—and from its ability to activate the alternative complement pathway.

Frequency

International

The prevalence rate of seborrheic dermatitis is 3-5%, with a worldwide distribution. Dandruff, the mildest form of this dermatitis, is probably far more common and is present in an estimated 15-20% of the population.

Race

Seborrheic dermatitis occurs in persons of all races.

Sex

Seborrheic dermatitis is slightly worse in males than in females.

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Age

The usual onset occurs with puberty. It peaks at age 40 years and is less severe, but present, among older people. In infants, it occurs as cradle cap or, uncommonly, as a flexural eruption or erythroderma.

History

Intermittent, active phases of seborrheic dermatitis manifest with burning, scaling, and itching, alternating with inactive periods. Activity is increased in winter and early spring, with remissions commonly occurring in summer.

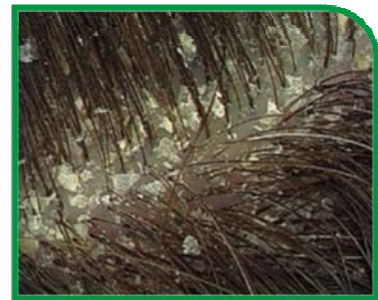
Active phases of seborrheic dermatitis may be complicated by secondary infection in the intertriginous areas and on the eyelids.

Candidal overgrowth is common in infantile napkin dermatitis. Such children may have a diaper dermatitis variant of seborrheic dermatitis or psoriasis.

Generalized seborrheic erythroderma is rare. It occurs more often in association with AIDS, congestive heart failure, Parkinson disease, and immunosuppression in premature infants.

Physical

The scalp appearance of seborrheic dermatitis varies from mild, patchy scaling to widespread, thick, adherent crusts. Plaques are rare. From the scalp, seborrheic dermatitis can spread onto the forehead, the posterior part of the neck, and the postauricular skin, as in psoriasis.



Causes

Malassezia organisms are probably not the cause but are a cofactor linked to a T-cell depression, increased sebum levels, and an activation of the alternative complement pathway. Persons prone to this dermatitis also may have a skin-barrier dysfunction.

Because seborrheic dermatitis is uncommon in preadolescent children, and tinea capitis is uncommon after adolescence, dandruff in a child is more likely to represent a fungal infection. A fungal culture should be completed for confirmation.

Various medications may flare or induce seborrheic dermatitis. These medications include auranofin, aurothiogluconate, buspirone, chlorpromazine, cimetidine, ethionamide, gold, griseofulvin, haloperidol, interferon alfa, lithium, methoxsalen, methyldopa, phenothiazines, psoralens, stanozolol, thiothixene, and trioxsalen.

Treatment

Medical Care

Early treatment of flares is encouraged. Behavior modification techniques in reducing excoriations are especially helpful with scalp involvement.

Topical corticosteroids may hasten recurrences, may foster dependence because of a rebound effect, and are discouraged except for short-term use. Skin involvement responds to ketoconazole, naftifine, or ciclopirox creams and gels. Alternatives include calcineurin inhibitors (ie, pimecrolimus, tacrolimus), sulfur or sulfonamide combinations, or propylene glycol. Class IV or lower corticosteroid creams, lotions, or solutions can be used for acute flares. Systemic ketoconazole or fluconazole may help if seborrheic dermatitis is severe or unresponsive. Combination therapy has been recommended.

Dandruff responds to more frequent shampooing or a longer period of lathering. Use of hair spray or hair pomades should be stopped. Shampoos containing salicylic acid, tar, selenium, sulfur, or zinc are effective and may be used in an alternating schedule.

Overnight occlusion of tar, bath oil, or Baker's P&S solution may help to soften thick scalp plaques. Derma-Smooth F/S oil is especially helpful when widespread scalp plaques are present. Selenium sulfide (2.5%), ketoconazole, and ciclopirox shampoos may help by reducing Malassezia yeast scalp reservoirs. Shampoos may be used on truncal lesions or in beards but may cause inflammation in the intertriginous or facial areas.

It has been reported that 1% metronidazole gel is effective for seborrheic dermatitis of the face. Some suggest using a nonsteroidal cream.

Seborrheic blepharitis may respond to gentle cleaning of eyelashes with baby shampoo and cotton applicators. The use of ketoconazole cream in this anatomical region is controversial.

Medication

The goals of pharmacotherapy are to reduce morbidity and to prevent complications.

Antifungals

Mechanism of action may involve alteration of RNA and DNA metabolism or an intracellular accumulation of peroxide that is toxic to fungal cells.

Ketoconazole topical

It's an imidazole broad-spectrum antifungal agent that inhibits synthesis of ergosterol, causing cellular components to leak, resulting in fungal cell death. It's available as ketoconazole cream 2%, and ketoconazole shampoo 2%.



Corticosteroids

Have anti-inflammatory properties and cause profound and varied metabolic effects. Also modify body's immune response to diverse stimuli.

Betamethasone topical

Is a medium-strength topical corticosteroid for body areas. It decreases inflammation by suppressing migration of polymorphonuclear leukocytes and reversing capillary permeability. It affects production of lymphokines and has inhibitory effect on Langerhans cells.

Keratolytics

Cause cornified epithelium to swell, soften, macerate, and then desquamate.

Coal tar Inhibits deregulated epidermal proliferation and dermal infiltration; antipruritic and antibacterial.

Immunosuppressants

Exert anti-inflammatory affect by inhibiting T-lymphocyte activation. Safer than topical steroids for prolonged use or in skin folds.

Tacrolimus ointment (Protopic), Pimecrolimus (Elidel cream 1%)

Nonsteroidal anti-inflammatory agents, which should not cause steroid-type skin atrophy. They're currently indicated only for atopic dermatitis in immunocompetent patients >2 years old. Pimecrolimus cream should be used sparingly to avoid maceration in skin folds.

Reference: emedicine.medscape.com

Terminology

Anhedonia

Anhedonia is the loss of the capacity to experience pleasure. The inability to gain pleasure from normally pleasurable experiences. Anhedonia is a core clinical feature of depression, schizophrenia, and some other mental illnesses.



An anhedonic mother finds no joy from playing with her baby. An anhedonic football fan is not excited when his team wins. An anhedonic teenager feels no pleasure from passing the driving test. "Anhedonia" is derived from the Greek "a-" (without) "hedone" (pleasure, delight). Other words derived from "hedone" include hedonism (a philosophy that emphasizes pleasure as the main aim of life), hedonist (a pleasure-seeker), and hedonophobia (an excessive and persistent fear of pleasure).

Reference: www.medterms.com



Complementary Medicine

Ginkgo

Common Names *Ginkgo biloba*, fossil tree, maidenhair tree, Japanese silver apricot, baiguo, bai guo ye, kew tree, yinhsing (yin-hsing).

How Ginkgo Is Used

Extracts are usually taken from the ginkgo leaf and are used to make tablets, capsules, or teas. Occasionally, ginkgo extracts are used in skin products.

What Ginkgo Is Used For

- Ginkgo leaf extract has been used to treat a variety of ailments and conditions, including asthma, bronchitis, fatigue, and tinnitus (ringing or roaring sounds in the ears).
- Today, people use ginkgo leaf extracts hoping to improve memory; to treat or help prevent Alzheimer's disease and other types of dementia; to decrease intermittent claudication (leg pain caused by narrowing arteries); and to treat sexual dysfunction, multiple sclerosis, tinnitus, and other health conditions.



What the Science Says

- Numerous studies of ginkgo have been done for a variety of conditions. Among the most widely researched are dementia, memory impairment, intermittent claudication, and tinnitus.
- An NCCAM-funded study of the well-characterized ginkgo product EGb-761 found it ineffective in lowering the overall incidence of dementia and Alzheimer's disease in the elderly. Further analysis of the same data also found ginkgo to be ineffective in slowing cognitive decline, lowering blood pressure, or reducing the incidence of hypertension. In this clinical trial, known as the Ginkgo Evaluation of Memory study, researchers recruited more than 3,000 volunteers age 75 and over who took 240 mg of ginkgo daily. Participants were followed for an average of approximately 6 years.

- Some smaller studies of ginkgo for memory enhancement have had promising results, but a trial sponsored by the National Institute on Aging of more than 200 healthy adults over age 60 found that ginkgo taken for 6 weeks did not improve memory.
- Overall, the evidence on ginkgo for symptoms of intermittent claudication has not yet shown a significant benefit for this condition, although several small studies have found modest improvements. There is conflicting evidence on the efficacy of ginkgo for tinnitus.
- Other NCCAM-funded research includes studies of ginkgo for symptoms of multiple sclerosis, intermittent claudication, cognitive decline, sexual dysfunction due to antidepressants, insulin resistance, and short-term memory loss associated with electroconvulsive therapy for depression.

Side Effects and Cautions

- Side effects of ginkgo may include headache, nausea, gastrointestinal upset, diarrhea, dizziness, or allergic skin reactions. More severe allergic reactions have occasionally been reported.
- There are some data to suggest that ginkgo can increase bleeding risk, so people who take anticoagulant drugs, have bleeding disorders, or have scheduled surgery or dental procedures should use caution and talk to a health care provider if using ginkgo.
- Fresh (raw) ginkgo seeds contain large amounts of a chemical called ginkgotoxin, which can cause serious adverse reactions—even seizures and death. Roasted seeds can also be dangerous. Products made from standardized ginkgo leaf extracts contain little ginkgotoxin and appear to be safe when used orally and appropriately.
- Tell all your health care providers about any complementary and alternative practices you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

Reference: nccam.nih.gov/herbs



FDA News

FDA Approves Chewable Oral Contraceptive

The US Food and Drug Administration (FDA) has approved the first low-dose oral contraceptive regimen to combine 0.8 mg norethindrone and 0.025 mg ethinyl estradiol in chewable form, with four 75-mg ferrous fumarate placebo tablets.

The 24/4 regimen, marketed by Watson Pharmaceuticals, Inc, a subsidiary of Global Brands under license from Warner Chilcott plc, is intended to decrease breakthrough bleeding and provide short, light, predictable periods.

FDA approval was based on data from a 1-year, phase 3, multicenter, open-label study of 1251 women aged 18 to 35 years (12,297 treatment cycles). Results showed a pregnancy rate of 2.01 per 100 women-years of treatment. Mean period duration was short (3.7 days) and predictable, beginning on day 27 or 28.

Adverse events associated with use of the iron-boosted regimen included nausea/vomiting (8.8%), headaches/migraine (7.5%), depression/mood complaints (4.1%), dysmenorrhea (3.9%), acne (3.2%), anxiety symptoms (2.4%), breast pain/tenderness (2.4%), and increased weight (2.3%).



As with other combination oral contraceptive regimens, the safety labeling for the 24/4 norethindrone 0.8 mg/ethinyl estradiol 0.025 mg regimen includes a boxed warning advising against its use in women smokers older than 35 years, citing an increased risk for serious cardiovascular events.

Marketing will begin in the second quarter of 2011.

Reference: www.medscape.com



Drug-Drug interactions

Statins and Azole Antifungals

Object Drug

Statins

Precipitant Drug

Itraconazole

Ketoconazole

Voriconazole

Fluconazole

Effect

Increased simvastatin/ lovastatin concentrations and risk of myopathy/ rhabdomyolysis

Mechanism

Inhibition of simvastatin/ lovastatin metabolism by CYP3A4

Options

Usually Avoid

- Consider Alternative Antifungal Agents: Terbinafine or ciclopirox nail lacquer would be relatively safer antifungal agents.
- Consider Alternative Statins: For patients requiring long-term azole antifungal therapy, preferable statin alternatives include fluvastatin, rosuvastatin, or pravastatin.
- Temporarily Hold Statin Therapy: Temporarily holding the simvastatin/lovastatin during short-term (e.g., 2-week) azole antifungal therapy is a reasonable alternative for patients with stable cardiovascular disease.
- Monitor: If alternatives are not appropriate, the patient should be monitored for evidence of myopathy (muscle pain or weakness) and myoglobinuria (dark urine).

Reference: www.azcert.org/medical-pros/druginteractions.cfm



Test Your Knowledge

1- The recommended daily intake of elemental calcium for postmenopausal women is:

- | | | |
|---------------|---------------|-----------------|
| A. 1-1.5 g | B. 300-500 mg | C. 100 – 200 mg |
| D. 600-800 mg | E. 2- 2.5 g | |

2- Alternative antibiotics for otitis media for the child allergic to penicillin include all of the following **except**:

- | | |
|----------------------------------|------------------|
| A. clindamycin | B. erythromycin |
| C. erythromycin- sulfisoxazole | D. ciprofloxacin |
| E. trimethropin-sulfamethoxazole | |



3- A positive reaction to a tuberculin skin (PPD) test indicates which of the following?

- A. Presence of active disease.
- B. Implies past or present infection with tuberculosis.
- C. Immunity to invasion by tubercle bacillus.
- D. susceptible to invasion by tubercle bacillus.

4- A serious side effect of furosemide in treating heart patients is that it:

- A. Interacts with digitalis glycosides.
- B. Causes arterial blockage.
- C. May cause anuria.
- D. Causes hypertension.
- E. May lose its effect.

(You will find the right answers at the bottom of the last page)

Real Enquiries

At the "Drug Information Center", we respond to enquiries from the professional health team as well as from others. Here's one of the enquiries received at the center!

Enquiry received from: Ph/ Ahmed Abdelrasoul – Pharmacist at the Clinical Pharmacy Lab., Assiut University New Pediatric Hospital.

Enquiry: What is the proper dilution method of phenytoin for IV infusion?

Summary of Answer:

The addition of phenytoin to infusion fluids is not recommended due to lack of solubility and resultant precipitation.

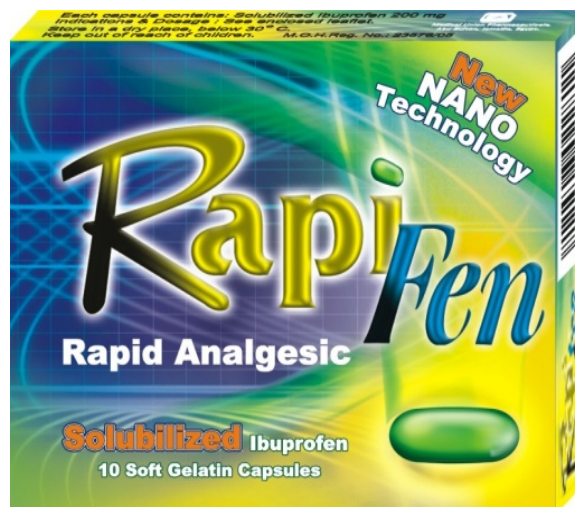
• Sodium chloride 0.9% may be used but only if:-

1. The final phenytoin concentration is less than 6.7mg/ml
2. The infusion is prepared and used within one hour

The most prominent example of a pH-related reduction in solubility is dilution of phenytoin sodium injection. The drug is formulated with non-aqueous solubilising agents and the solution is adjusted to a pH of 12. Dilution of injectable phenytoin by adding it to an infusion bag lowers its pH and therefore reduces its solubility resulting in precipitation of the drug. Glucose 5% infusion solution, which has a pH of 4.3-4.5, will precipitate phenytoin almost immediately. Alternatively, fosphenytoin sodium, a prodrug of phenytoin, can be used for IV infusion.

MUP Developed New Pharmaceutical Modifications to NSAIDS

MUP developed New pharmaceutical modifications to NSAIDS to gain their maximum benefits for physicians and patients. Rapifen is the 1st product in the Middle East that uses nanotechnology. Nano-particle technology improves performance of poorly water-soluble drugs. Nano particles have much higher bio-adhesion (adhesion to biological membrane) than micro particles. Rapifen with unique nano- technology used for three indications (analgesic, antipyretic, and anti inflammatory).



Ibuprofen with nano- particles is more soluble than ibuprofen (micro particle or powder). Rapifen has a very rapid onset of action (5 minutes), it provides higher efficacy in pain relieving. It provides great flexibility in dose regimen. Rapifen is also economic in price.

Answers:

1-(A) postmenopausal women not receiving estrogen replacement therapy require a calcium intake of 1-1.5 g to maintain positive calcium balance and prevent osteoporosis.

2-(D) ciprofloxacin is not recommended for use in children or pregnant patients because of potential adverse effects in developing limbs.

3-(B) A positive tuberculin reaction does not necessarily indicate the presence of active disease but implies a past or present infection .Further diagnostic tests (i.e., chest X rays, microbiologic exam of sputum) are required before a diagnosis of tuberculosis can be validated.

4-(A) Furosemide increases the toxicity of digitalis.

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