

Dandruff and seborrhoeic dermatitis

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قال رسول الله صلى الله عليه وسلم : ما من خارج خرج من بيته في طلب العلم إلا وضعت له الملائكة اجنحتها رضا بما يصنع

Dandruff and seborrhoeic dermatitis

- Dandruff is seen as excessive shedding of the cornified cells of the scalp in the form of scales.
- Seborrhoeic dermatitis results from accelerated epidermal proliferation and sebaceous gland activity on the scalp, face and trunk

Dandruff causes

- Dandruff (pityriasis capitis) is a chronic, non-inflammatory scalp condition characterized by excessive shedding of the cornified cells of the scalp in the form of scales, which is sometimes accompanied by itching and redness of the scalp.
- Dandruff is rare in young children, but incidence increases rapidly with age, peaking in the second decade of life and declining gradually thereafter.
- Estimates of prevalence vary, but it has been claimed that 75% of the population is affected by dandruff at some time in their lives.
- It **appears to affect both sexes equally**

Dandruff causes

- Dandruff is caused by increases in the production of horny substance and cell turnover on the scalp and may be associated with raised androgen levels.
- Also, people with dandruff have been found to have high levels of microorganisms on the scalp, particularly the yeast Pityrosporum ovale, compared with people who do not have the condition.
- It has not been determined conclusively whether this organism is the cause of dandruff or is merely encouraged by the abundance of nutrients from shed skin cells; however, antimicrobial shampoos active against P. ovale appear to control the condition

Seborrhic dermatitis causes

- Seborrhoeic dermatitis (seborrhea) is the result of accelerated epidermal proliferation and sebaceous gland activity on the scalp, face and trunk.
- On the scalp, the condition may be difficult to distinguish from more severe forms of dandruff, as characteristic features are the presence of greasy scales and often pruritus.
- Seborrhoeic dermatitis is common in infants, when it is known as cradle cap, is relatively rare in children and occurs again from puberty, the incidence peaking between the ages of 18 and 40 years



Seborrhic dermatitis causes

- The condition may also involve the area in and around the ears, the eyebrows and eyelashes.
- As in dandruff, growth of *P. ovale* is increased in the scaly epidermis and may be a causative agent, a theory supported by the fact that ketoconazole improves the condition

Treatment

- Topical treatments for dandruff and mild forms of seborrhoeic dermatitis are the same and are available without prescription.
- Regular use (at least twice weekly) of an ordinary mild detergent shampoo will effectively control dandruff by removing scales.

Treatment

- A wide range of medicated treatments is available, containing ingredients such as:
- * pyrithione zinc
- * selenium sulphide
- * ketoconazole
- * coal tar
- * keratolytic agents
- * antimicrobial detergents.

Treatment

❖ Pyrithione zinc and selenium sulphide

Mode of action

- Both of these compounds are **cytostatic agents, which act by reducing the rate of epidermal cell turnover.**
- The compounds are generally accepted as *being effective in controlling dandruff and are of approximately equal efficacy.*
- The action of pyrithione zinc is thought to involve a non-specific toxicity for epidermal cells, whereas selenium sulphide is believed to have a direct antimitotic effect.
- It has also been suggested that selenium sulphide has an inhibitory action against *P. ovale*, exerted by irreversibly changing free sulphhydryl groups in the yeast cells into rigid polysulphide bonds, thereby preventing cell division.

Treatment

- **Administration**
- The effectiveness of pyrithione zinc depends on the extent of binding to the hair and epidermis, which is a function of time, temperature, concentration and frequency of application.
- Early formulations required contact times of 5–10 minutes, but for **current products 2–3 minutes two or three times weekly is sufficient.**
- Selenium sulphide is used twice a week for 2 weeks, and then once a week as necessary to control the condition.
- Each of the two applications per treatment should be left on the hair for 3 minutes.

pyrithione zinc products



pyrithione zinc dandruff shampoo + conditioner

Healthy Hair Starts From a Healthy Scalp™

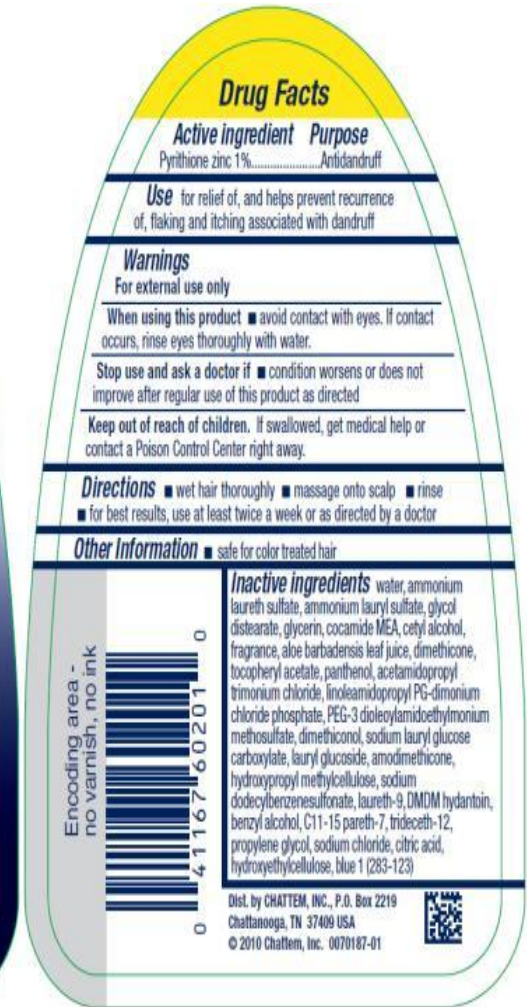
Advanced formula relieves scalp itch, dryness, irritation and helps prevent flakes while improving hair and scalp health.

Invigorates Hair and Scalp

- with sea mineral essence, invigorates and cleanses your hair and scalp with an uplifting scent
- dual action formula cleans and cares for the scalp while providing extra conditioners for the hair
- gentle and pH balanced for everyday use even on color treated or permed hair
- the makers of head & shoulders do not manufacture private label brands

for best results on hair and scalp use head & shoulders conditioners

selenium sulfide products



Contraindications, cautions and side-effects

- Pyrithione zinc binds strongly to both the hair and epidermis but does not penetrate into the dermis; ***long-term use has not been associated with toxicity.***
- Selenium sulphide also appears safe for long-term external use, although it is ***highly toxic if ingested.***
- *Regular use of selenium sulphide shampoo tends to leave a residual odour of hydrogen sulphide and makes the scalp oily.*
- Hair should not be dyed or permed for at least 2 days before or after using the shampoo

Contraindications, cautions and side-effects

- Neither compound should be applied to broken or abraded skin, and contact with the eyes should be avoided.
- *Neither compound is contraindicated in pregnancy or breastfeeding*, although the manufacturers of selenium sulphide shampoo advise against its use during the first trimester of pregnancy.
- Selenium sulphide preparations are not recommended for children under 5 years of age.

Ketoconazole

- **Mode of action**
- Ketoconazole is available as a 2% shampoo. It is an azole antifungal that inhibits replication of yeast cells by interfering with the synthesis of ergosterol – a vital component of the cell membrane.
- Studies have shown ketoconazole to be effective in clearing dandruff and scalp seborrhoea; *it is more effective than pyrithione zinc and about as effective as selenium sulphide, although ketoconazole appears to be better tolerated.*
- Ketoconazole shampoo is more expensive than selenium sulphide and ‘medicated’ pyrithione zinc preparations.

Ketoconazole

- **Administration**
- To clear dandruff and seborrhoeic dermatitis, the shampoo is used twice a week for 2–4 weeks; it should be left on the hair for 3–5 minutes on each application.
- The condition can then be controlled with weekly or fortnightly use (two times per month)

Ketoconazole

Contraindications, cautions and side-effects

- Ketoconazole shampoo appears to be extremely safe to use.
- The compound has not been detected in plasma following topical use, and the shampoo does not cause the adverse effects and interactions associated with systemic use.
- Skin irritation has been reported only very rarely.
- It is not contraindicated in pregnancy.

Ketoconazole products



Coal tar and other tar products

- A wide range of products are licensed for dandruff, seborrhoeic dermatitis and psoriasis of the scalp and are available without prescription.
- Most of these products contain combinations of ingredients, of which coal tar is the most popular.

Coal tar and other tar products

- **Mode of action**
- The mode of action of coal tar is unclear; it does not appear to reduce cell proliferation but appears to **prevent the formation of squames or flakes of dandruff by interfering with the formation of intracellular cement.**
- It also appears to impede the formation of sebum and to have antipruritic properties.

Coal tar and other tar products



Keratolytic agents

- **Mode of action**
- In the treatment of dandruff, *salicylic acid at adequate concentration would be expected to help break up dandruff squames and loosen them from the scalp.*

Keratolytic agents

- **Administration**
- A minimum concentration of 1% is reported to be necessary to show a keratolytic effect on the scalp, but a prolonged contact time is needed and the effect takes up to 10 days to develop.
- Shampoos containing salicylic acid are greatly diluted on application, contact time is minimal, and there is *unlikely to be sufficient left on the scalp after rinsing to exert a residual effect, casting doubt on their effectiveness.*

Keratolytic agents

- Nevertheless, a trial found that a shampoo containing 3% salicylic acid was as effective in controlling dandruff as Nizoral (2% ketoconazole).
- Some shampoos contain other keratolytic agents, including sulphur, which is believed to increase sloughing of cells via an inflammatory process, and allantoin, which is claimed to have chemical debriding properties.

Keratolytic agents

- One ointment containing salicylic acid and coal tar is available; it is likely to be more effective than shampoos, but it is messy to use and the risk of adverse effects is greater.

Keratolytic agents



Antimicrobial detergents

- Ceanel Concentrate (Ferndale) contains **cetrimide**, a quaternary ammonium antiseptic and cationic surfactant, together with an antifungal agent, **undecenoic acid**, at very low concentration.
- *It may be no more effective against dandruff than regular use of an ordinary shampoo.*

Product selection points

- *Pyrithione zinc, selenium sulphide and ketoconazole shampoos are all effective in controlling dandruff.*
- *Ketoconazole appears to be more effective than pyrithione zinc but not selenium sulphide, although the latter is less pleasant to use.*
- *Ketoconazole shampoo is more expensive than shampoos containing either of the other two compounds.*
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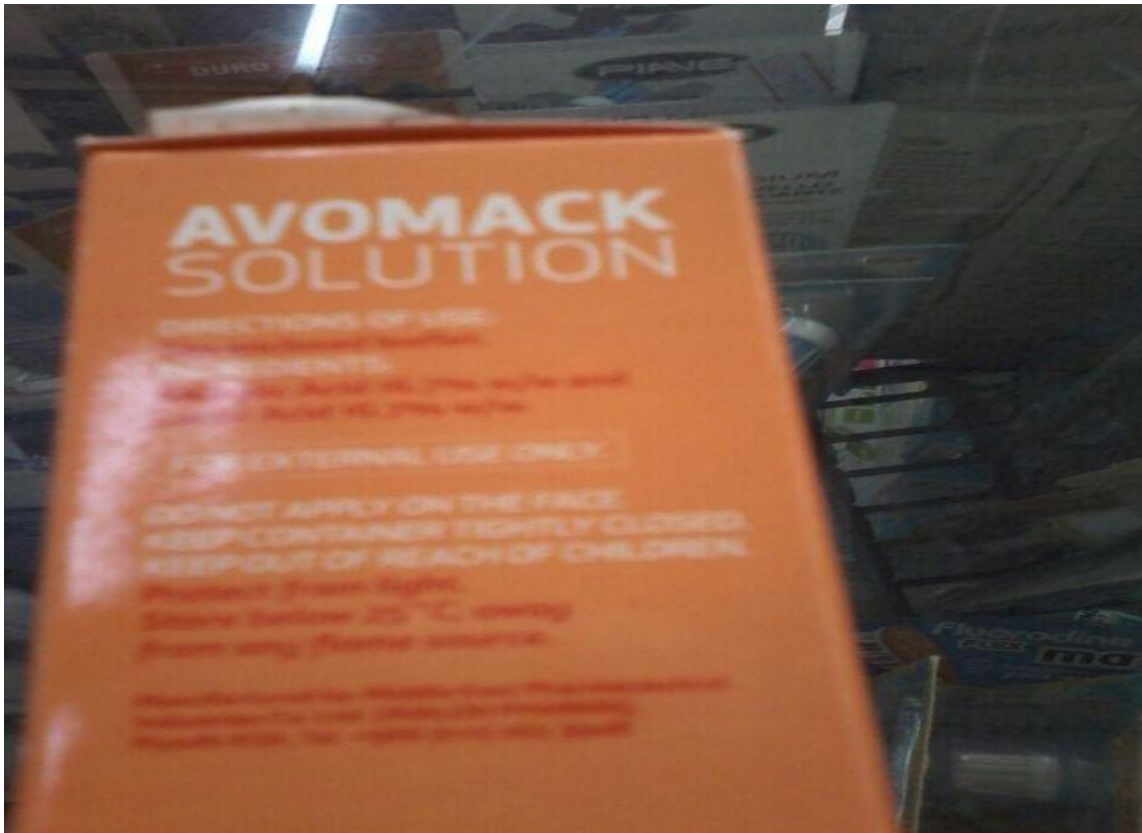
Product selection points

- A wide range of shampoos containing coal tar, keratolytic agents and microbial detergents are available.
- *They have been traditionally used for dandruff, and there appears to be general satisfaction with their performance; however, there is little clinical evidence of their effectiveness.*

Product recommendation

- Regular (twice weekly) use of an ordinary shampoo should be tried initially.
- If this is not effective, the treatments of choice appear to be:
 - * ketoconazole (on grounds of efficacy but not cost)
 - * selenium sulphide (on grounds of efficacy and cost but not cosmetic acceptability)
 - a 'medicated' pyrithione zinc shampoo (on grounds of cost and cosmetic acceptability).
- However, clinicians and patients also seem satisfied with coal tar-based preparations.

PRODUCTS IN JORDAN



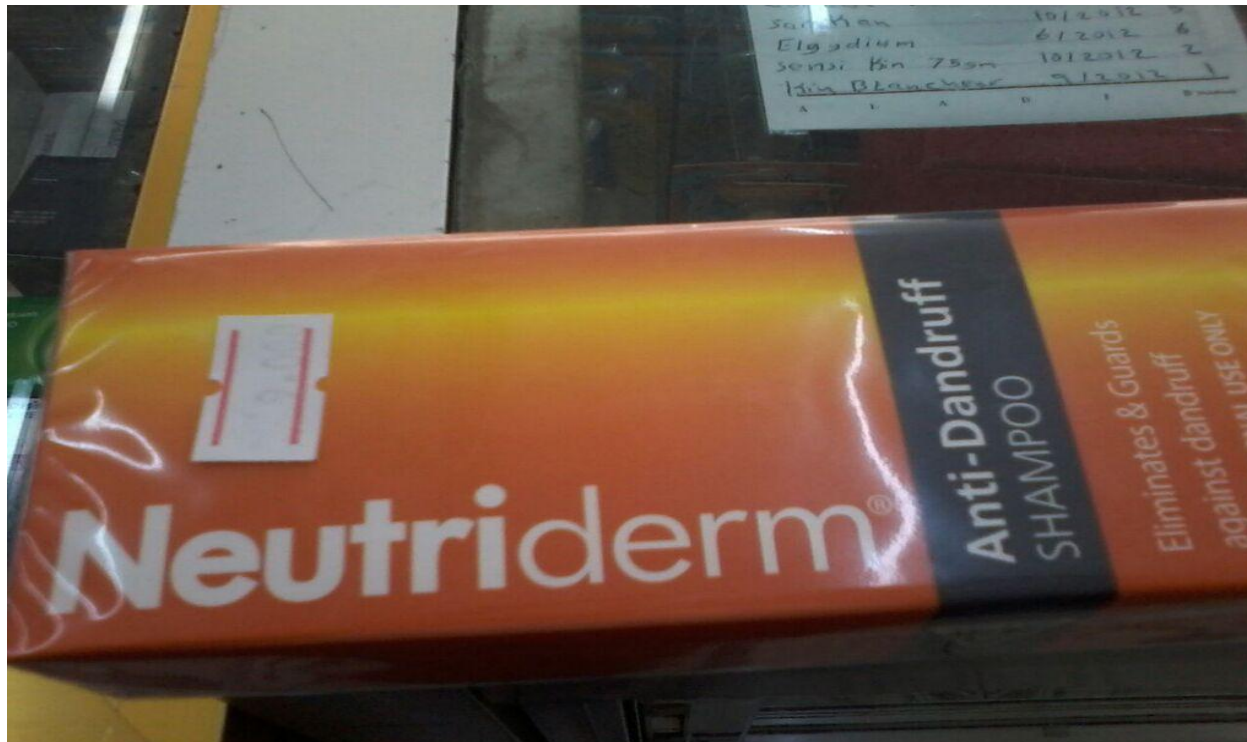
salicylic acid
and lactic acid

MICRONIZED SELNIUM DISULPHIDE



PRODUCTS IN JORDAN

- Contains 1% Climbazole, a new advanced ingredient which gives effective relief and controls dandruff
- Climbazole is a topical antifungal agent



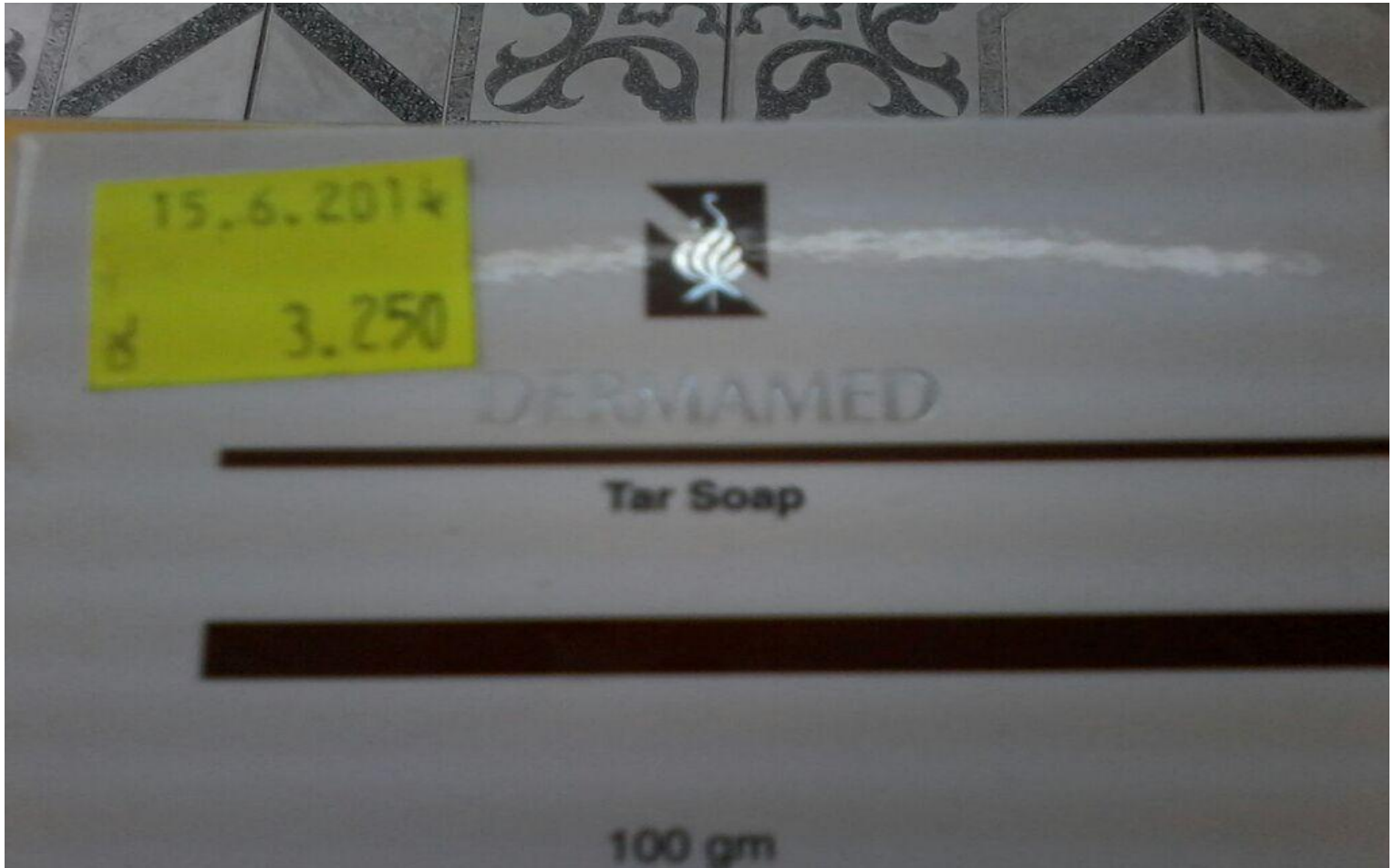
PRODUCTS IN JORDAN



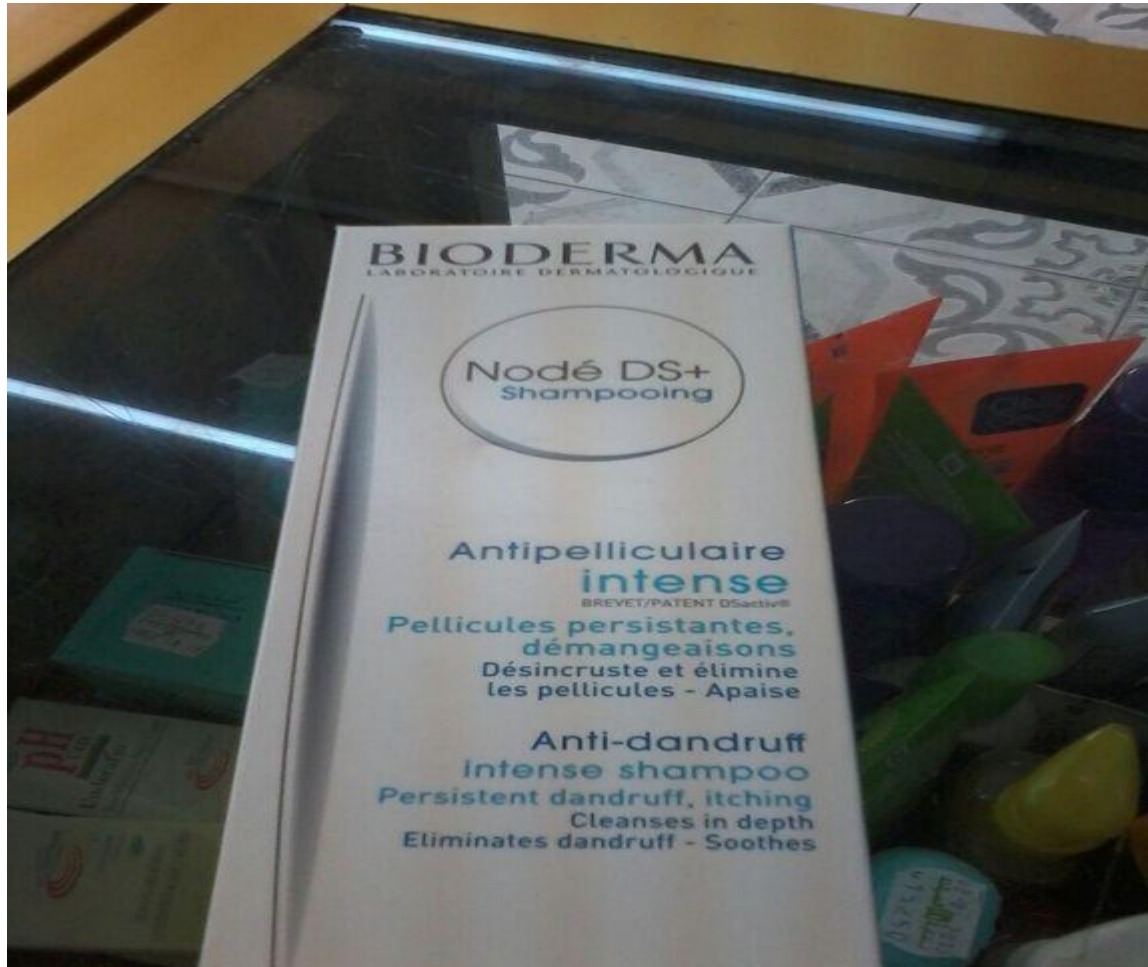
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Climbazole