

A promising alternative in the treatment of dermal fungal infections



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Cutisorb® Sorbact® has proved successful as a non-medicated treatment of acute and chronic infected wounds. Pathogenic microorganisms are bound to the wound dressing by the physical principle of hydrophobic interaction and are thereby removed from the wound with every dressing change. This helps create the optimum conditions for natural wound healing.

Studies have shown that fungal pathogens like *Candida albicans* – similar to wound pathogenic bacteria – express a certain degree of cell surface hydrophobicity. This provides the ideal basis for also treating fungal infections with Cutisorb® Sorbact®.

Dermal fungal infections

Fungal infections are now amongst the most common skin diseases. With growing development of resistance and allergies to standard antimycotics, increasing attention is now being devoted to these conditions and research into alternative methods of treatment is being driven forward.

Parts of the body that are permanently moist or with skin-on-skin contact are frequently affected. Skin areas like the intertriginous spaces, the inguinal region, under the breasts and in the genital area offer excellent substrates for fungal pathogens. Particularly elderly people and chronically ill or immunocompromised patients are susceptible to skin mycoses. They require expert treatment since the infected

areas act as points of entry for other etiologic agents, setting in motion a continuous cycle of diseases.

In general there are three groups of medically relevant skin fungi. The first large group comprises the dermatophytes (thread fungi) which can be further classified into epidermatophytes, microspores and trichophytes. Clinical manifestations range from mycosis pedis through alopecia areata to abscesses. Yeasts can also give rise to mycoses. These include, for example, the microorganism *Candida albicans* which is known to cause candidiasis. The third major group of cutaneous fungal pathogens comprises all medically relevant mould fungi. These pathogens cause serious infections especially in immunocompromised patients.



Fig. 1: Abdominal and vaginal infection



Fig. 2: Wound bacteria and fungi bind to Cutisorb® Sorbact®: *Staph. aureus* (yellow), *Pseudomonas aeruginosa* (purple), *Candida albicans* (orange).

Methods and results

To evaluate the efficacy of Cutisorb® Sorbact® in fungal infections, a field study was performed in eight patients between 77 and 99 years of age (mean age 86 years; 6 female / 2 male) in Borås in the Bråmhult municipal district in Sweden. The patients were suffering from intertriginous and in some cases chronic fungal infections. At the start of treatment, three patients had infections of the inguinal region and two under the breast. In two other patients, both the inguinal region and the skin under the breast were infected and in one case the scrotum was affected. Six patients had already been treated for fungal infections in the past using standard methods such as Pevaryl® cream (fungicidal cream containing econazole) or Lamisil® (fungicidal cream containing terbinafine).

In the field study, the patients were treated with Cutisorb® Sorbact® absorbent pads, swabs or ribbon gauzes over a period of ten days and the course of the infection was observed. The professional nursing personnel were also requested to assess the handling of the dressings.

The results of the field study are promising (details in Table 1). Five of eight patients were healed or free of infection within 3 to 8 days. Two patients showed a marked improvement at the infected sites after 10 days of treatment. Only in one case no improvement was observed during the treatment period. This was an 85-year-old female patient with a chronic fungal infection and in a poor general state of health.

Of six chronically infected patients, three became free of infection during the 10-day treatment period with Cutisorb® Sorbact®, while two further patients showed a marked improvement of the infected sites. This data shows that antimycotic resistant strains also bind to the wound dressing and can be combated. The nursing personnel consistently expressed satisfaction with the Cutisorb® Sorbact® treatment. In four cases the dressing was rated as easy, and in the other four cases even as very easy to use.

Conclusions

The results of the field study demonstrate the functionality of Cutisorb® Sorbact® in relation to fungal infections of the skin. They confirm that the wound dressings without a chemically active agent but with a unique mode of action can also contribute to the healing of mycoses.

Although further clinical studies are still outstanding, it can be stated that treatment with Cutisorb® Sorbact® appears to present a genuine alternative to conventional antimycotic therapies in the treatment of fungal infections, and fungal pathogens are not expected to develop resistance to the dressings' mode of action.

Table 1: Summary of the field study with Cutisorb® Sorbact®

Patient (gender, age)	Diagnosis	Treatment of previous infections	Results
Case 1 (f, 77)	Bilateral fungal infection of the inguinal region	Pevaryl® cream	Infection-free after 6 days of treatment
Case 2 (f, 83)	Bilateral fungal infection of the inguinal region	Cutisorb® Sorbact®	Improvement of the infection
Case 3 (m, 92)	Bilateral fungal infection of the inguinal region	no previous infections	Infection-free after 8 days
Case 4 (m 90)	Fungal infection of the inguinal region and the scrotum	Pevaryl® cream	Marked improvement after 10 days, almost complete healing
Case 5 (f, 80)	Fungal infection of the inguinal region and under the breast	no previous infections	Infection site healed after 4 days
Case 6 (f, 84)	Fungal infection of the inguinal region and under the breast	Pevaryl® cream	Infection-free after 3 days
Case 7 (f, 85)	Bilateral fungal infection under the breasts, very poor general state of health	Pevaryl® cream, Lamisil®	Unchanged after 10 days
Case 8 (f, 99)	Bilateral fungal infection under the breasts	Pevaryl® cream	Infection-free after 5 days

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