



UNICA

UNIVERSITÀ
DEGLI STUDI
DI CAGLIARI



Università di Cagliari

UNICA IRIS Institutional Research Information System

This is the Author's [*accepted*] manuscript version of the following contribution:

D. Agosta, C. Ferreli, J. Anedda, S. Mertoli and L. Atzori 2019. Efficacy and tolerability of an antiperspirant cream in hidradenitis suppurativa patients. *Journal of Applied Cosmetology*. 37, 1 (Jun. 2019), 33/39.

The publisher's version is available at:

SCOPUS: 2-s2.0-85103206766

NO DOI ASSIGNED

When citing, please refer to the published version.

This full text was downloaded from UNICA IRIS <https://iris.unica.it/>

Efficacy and tolerability of an antiperspirant cream in hidradenitis suppurativa patients

D. Agosta, C. Ferreli, J. Anedda, S. Mertoli, L. Atzori

¹Dermatology Clinic, Department of Medical Sciences and Public Health, University of Cagliari, Cagliari, Italy

Corresponding Author:

Prof.ssa Ferreli Caterina

Clinica Dermatologica

Via Ospedale 54

09124 Cagliari (Italy)

Phone: +393408918912

Fax: +3907051092303

Email: ferreli@unica.it

key words: *hidradenitis suppurativa, antiperspirant product, agaricin, deodorants, efficacy*

Introduction

Hidradenitis suppurativa (HS) is a chronic, progressive, inflammatory and relapsing skin disease of the follicular unit of the apocrine gland-rich intertriginous areas, that significantly affects the quality of life of an active, young adult population (1-4). The axillary (Fig. 1), inguinal, inframammary, genital areas of the body are the most affected sites and the lesions are characterized by recurrent painful inflamed deep-seated nodules, that result in abscesses

and chronic draining sinus tract formation and eventual disfiguring scars (5). Estimates of global prevalence range between 1% and 4%, without racial differences and with a higher incidence in female population. The etiology is still unclear, but the onset of HS is related to a combination of genetic and environmental factors, such as bacterial infection, hormones, smoking, obesity, mechanical and immune factors.



Fig. 1. *Hidradenitis suppurativa* involvement of the armpit in 2 patients accepting to apply the tested product: a mild form in the man, and a Hurley 3 stage in the woman.

Quality of life is seriously compromised by the chronic pain, malodorous abscesses, scarring, and disfigurement. Anxiety and depression are very common in this patient, resulting in a higher risk of suicidal ideation (6). Aesthetic complaints worsen the embarrassment and limitations to social, sexual and working life. Often the patient hides the problem even to their relatives and avoids seeking medical care. A mean delay of 7 years from onset to diagnosis is reported (1). Moreover,

Materials and methods

An interventional open study was proposed to hidradenitis suppurativa patients consecutively visited at the dermo-cosmetics outpatient ambulatory of the Dermatology Clinic of Cagliari University Hospital, and 15 patients (9 males and 6 females, mean age 26 years) gave consent

medical indications for the management of the disease are often in contrast with daily patients' needs, with further compromising of social attendance. In fact, it is generally recommended to avoid deodorants, sweating, rubbing, occlusive or adherent clothing, razor blade shaving (4).

Purpose of our study was to test the efficacy and tolerability of an antiperspirant cream composed of agaricin and chloridol in voluntary patients, with mild to moderate HS.

to recruitment. The study consisted on the daily application for three months of an antiperspirant and anti-odor cream composed of agaricin (a natural substance obtained from *Fomes Officinalis*, a hard and woody mushroom that grows on the trunk of de larch) and Chlorhydrol,

with antibacterial and antiperspirant properties. Severity of disease was classified following Hurly staging. All patients were under topical and/or systemic treatment following standard HS guidelines. Only required exclusion criteria was the use of other deodorants or antiperspirants

Results

All 15 patients returned to visit after 3 months and reported not having skipped the daily application or used other deodorant products. As

during the study period. At the 3-month-follow up a questionnaire was administered to evaluate efficacy, cosmetology pleasantness, and tolerability of the cream. Each item was assigned a score from 0 (minimum value) to 5 (maximum value).

regards disease severity (Fig. 2), only 2 cases were considered severe (Hurley 3), the majority being moderate (8 cases) and mild (5 cases).

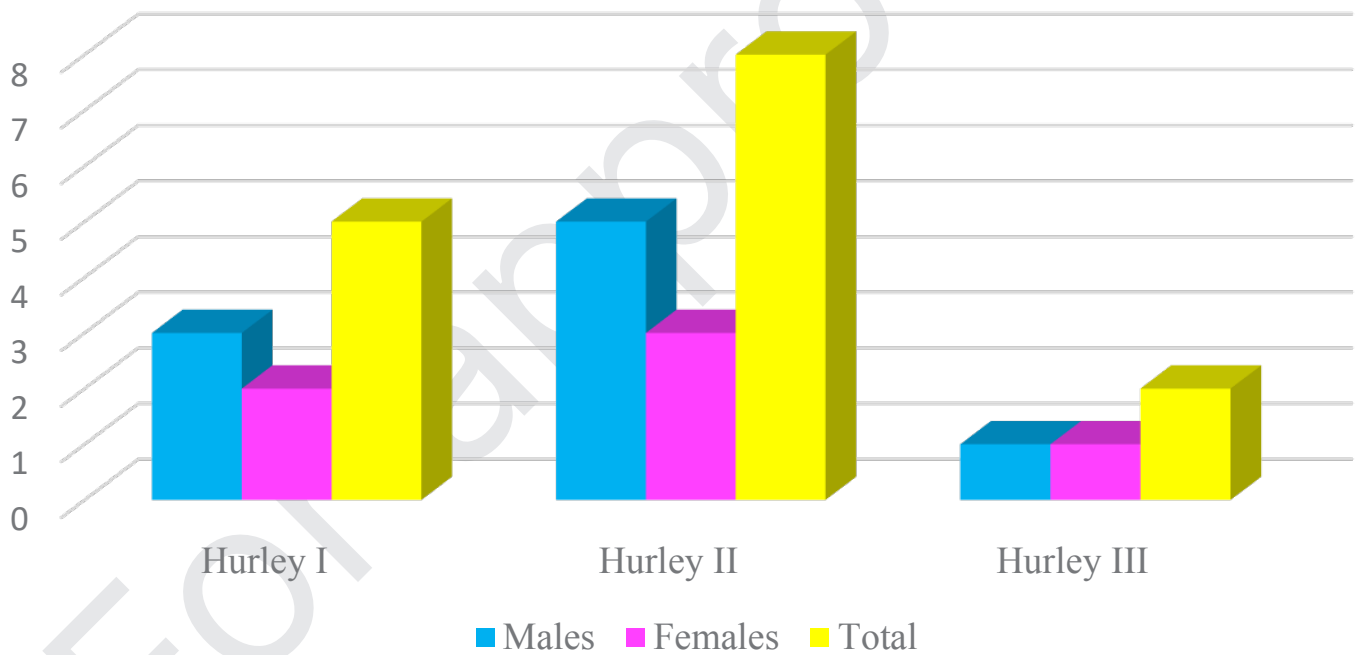


Fig. 2. Severity of disease following Hurley staging according to sex, and total cases.

Table I shows the patients’ answer to the 9 items investigated at the 3-month-follow-up, regarding efficacy, cosmetic characteristics, and possible unpleasant complaints. The overall effectiveness of the product was maximal for all patients, reducing sweating and improving odor of the

axillary regions for a duration of at least 24 hours (Fig. 3). The cosmetology of the tested product, understood as comfort, applicability, pleasantness of texture and fragrance was reported as maximal (Fig. 4).

Items of investigation	0	1	2	3	4	5
Sweating control	0	0	0	0	0	15
Odour Control	0	0	0	0	0	15
Confortable application	0	0	0	0	0	15
Texture	0	0	0	0	0	15
Fragrance	0	0	0	0	0	15
Redness	14	1	0	0	0	0
Burning	15	0	0	0	0	0
Itching	14	1	0	0	0	0
Other discomfort	15	0	0	0	0	0

Table I. Questionnaire items investigated at the 3-month-follow-up with a 5-point-scale, where 0 is absence of effect and 5 maximum effect of the tested product.



Fig. 3. Overall rating for the items related with efficacy after 24-hour-application.

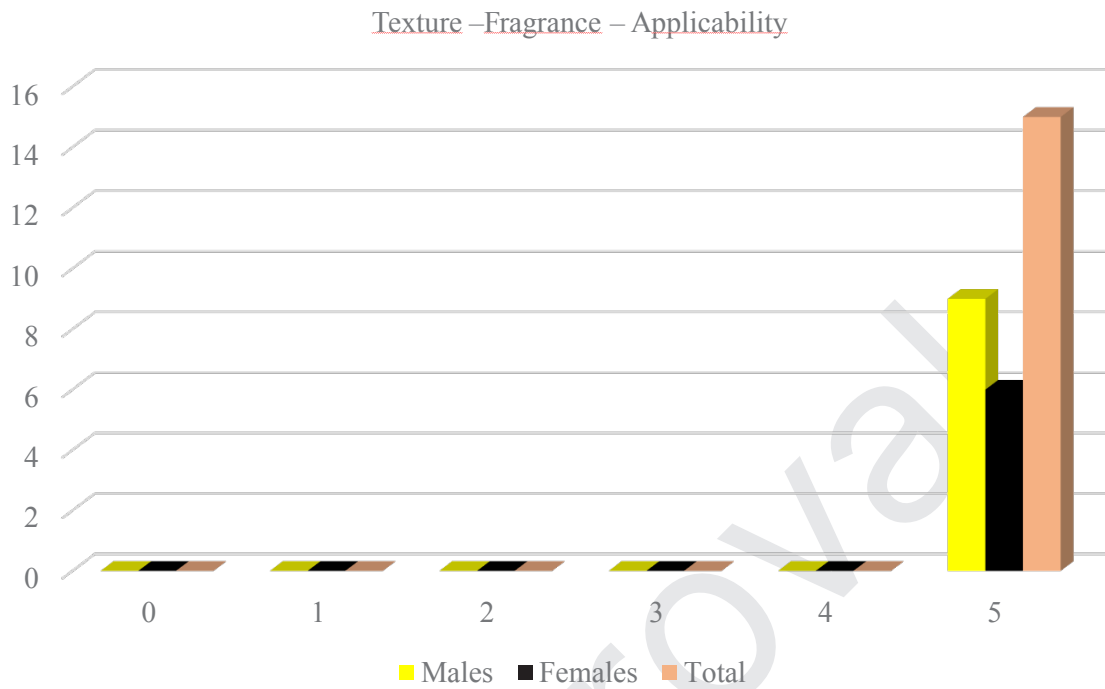


Fig. 4. Overall rating for the items related to cosmetic pleasantness.

Finally, tolerability was also optimal, only the limiting the use of the product, as the effects on patient affected with severe disease reporting perspiration and odor were prevalent on mild mild erythema and itching (Fig. 5), but not discomfort.

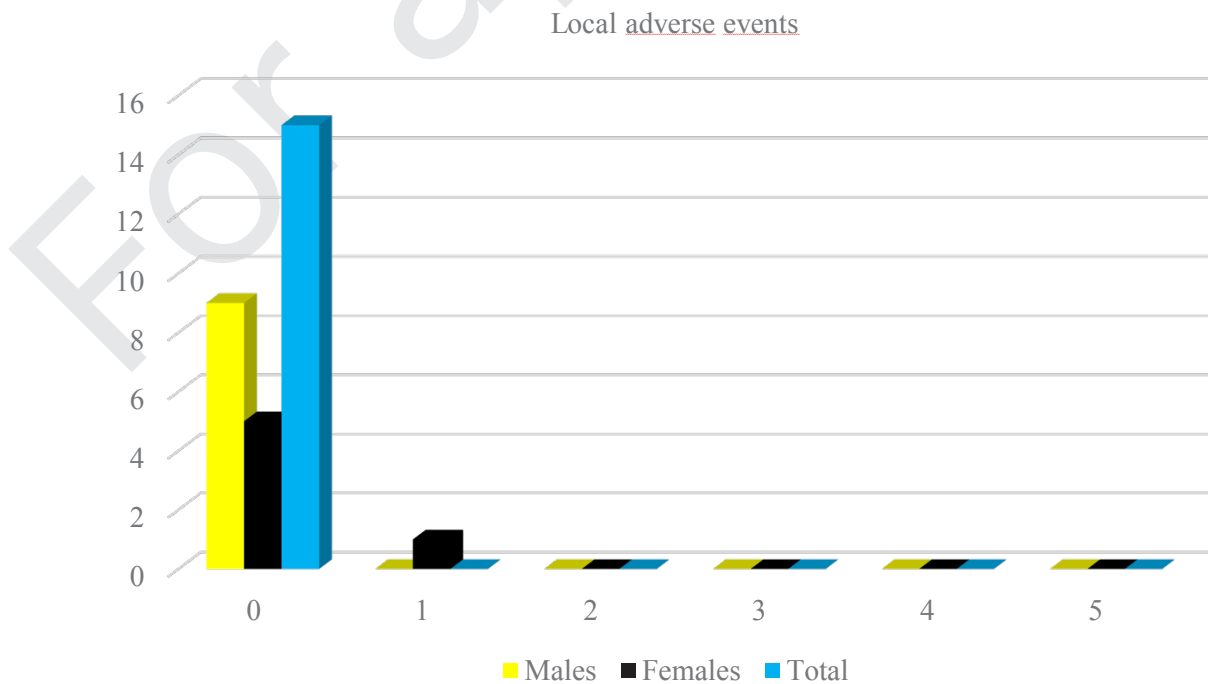


Fig. 4. Overall rating for the items related to cosmetic pleasantness.

The general visit confirmed that no patients had signs of disease worsening or irritation related

Discussion

Hidradenitis suppurativa is a pathology with a high impact on self-esteem, compromising relationship, social and sexual life (1,6) Malodorous intertriginous areas severely impact on normal daily activities, as well as playing sports. For a long time, the conviction that antiperspirants could cause or worsen the disease led to advise the patients not to use them. Of course, certain aggressive commercial products might cause excessive occlusion, interfere with trans-epidermal water loss (TEWL), thereby increasing skin surface moisture, and favoring bacterial proliferation (4). Other potential deleterious impacts of these cosmetics on the HS skin are related to chemical irritant effects on cut, nicked or irritated skin (7,8). It is otherwise noteworthy that sweat represents a pabulum for bacterial proliferation, in particular for those involved in HS, so the use of antiperspirants can be complementary to therapy.

In our study 15 patients affected with mild to

Conclusions

In a chronic pathology so difficult to treat and with so many psychological and social repercussions, resolution of even an apparently small aesthetic discomfort can make the difference. Antiperspirants should not be avoided for the mis-concept of worsening hidradenitis

References

1. Revuz J. (2009) Hidradenitis suppurativa. *J Eur Acad Dermatol Venereol* 23(9):985-98.
2. Wang S.C., Wang S.C., Alavi A., Alhusayen R., Bashash M., Sibbald R.G. (2015) Hidradenitis Suppurativa: A Frequently Missed Diagnosis, Part

with the tested product application.

moderate hidradenitis suppurativa reported good efficacy and tolerability of an antiperspirant cream applied in the axillary regions every 24 hours for 3 months. No worsening of the underlying disease was observed, and only mild erythema and itching occurred in the only severe case participating in the study, not requiring discontinuation of the application.

No differences were observed between men and women and between the various Hurley stages. Main limitation of the study was the number of patients, and prevalence of mild to moderate disease. However, male's participation was valuable for a major physiological sweating and physical activity in respect to females.

Our study confirms that the use of mild antiperspirants, free of irritating chemicals, can be applied to damaged and inflamed skin, improving a very important cause of discomfort in HS patients.

suppurativa. They are necessary complements to therapy, to improve normal living unmet needs. Of course, tested efficacy and tolerability of the cosmetic products is necessary, suitably selected for such disadvantaged patients.

- 2: Treatment Options. *Adv Skin Wound Care* 28(8):372-80; quiz 381-2.
3. Calao M., Wilson J.L., Spelman L., Billot L., Rubel D., Watts A.D., Jemec G.B.E. (2018) Hidradenitis Suppurativa (HS) prevalence, demographics

- and management pathways in Australia: A population-based cross-sectional study. *PLoS One* 24;13(7):e0200683.
4. Scheinfeld N. (2013) Hidradenitis suppurativa: A practical review of possible medical treatments based on over 350 hidradenitis patients. *Dermatol Online J* 15;19(4):1.
 5. Margesson L.J., Danby F.W. (2014) Hidradenitis suppurativa. *Best Pract Res Clin Obstet Gynaecol* 28(7):1013-27.
 6. Patel Z.S., Hoffman L.K., Buse D.C., et al. (2017) Pain, Psychological Comorbidities, Disability, and Impaired Quality of Life in Hidradenitis Suppurativa [corrected]. *Curr Pain Headache Rep* 1;21(12):49.
 7. Edlich R.F., Silloway K.A., Rodeheaver G.T., Cooper P.H. (1986) Epidemiology, pathology, and treatment of axillary hidradenitis suppurativa. *J Emerg Med* 4(5):369-78.
 8. Morgan W.P., Leicester G. (1982) The role of depilation and deodorants in hidradenitis suppurativa. *Arch Dermatol* 118(2):101-2.