Optimizing Therapeutic Regimens with Sodium Sulfacetamide-based Agents

A ROUNDTABLE DISCUSSION WITH:

Peter A. Lio, MD, Chair
Hilary Baldwin, MD
Richard G. Fried, MD, PhD
Rita V. Linkner, MD
Joshua A. Zeichner, MD

The treatment of acne, rosacea, and seborrheic dermatitis often requires therapies from several non-overlapping categories, such as retinoids, topical antibiotics, and corticosteroids. One agent that offers unique benefits in a range of capacities in managing these conditions is sodium sulfacetamide, both with and without sulfur. In this roundtable discussion, several experts delved further into the pathology of acne, rosacea, and seborrheic dermatitis, and explored the incidence, distinctive presentations, and potential under-diagnosis of these conditions, as well as the commonalities among them. The panel then discussed the unique role of sodium sulfacetamide-based agents in the treatment of these disorders.

VARYING LEVELS OF CHRONICITY: ACNE, ROSACEA, AND SEBORRHEIC DERMATITIS IN CONTEXT

Acne, rosacea, and seborrheic dermatitis are among the most routine diagnoses for dermatologists. Although each condition has unique clinical qualities and can be treated with a range of modalities, they also share certain interesting similarities. In particular, seborrheic dermatitis and rosacea have several underlying links, the most significant of which is that often patients don’t have an awareness of the condition. “In my practice, patients often walk in for a completely different reason and we find out that they are covered with seborrheic dermatitis,” observed Dr. Baldwin. Patients also frequently misunderstand rosacea, believing that the redness or irritation is due to allergies or perhaps something else. “Many folks with rosacea travel down that road of asking, ‘What am I allergic to?’ and it’s months or years until they’re diagnosed,” noted Dr. Fried.

Acne is slightly different in this regard. In fact, many patients actively seek treatment through primary care physicians or with over-the-counter consumer products. By the time many of these patients reach the dermatologist, they are skeptical, even cynical. “Many patients arrive at the office having used a popular OTC therapy for three weeks and their cystic acne isn’t gone,” said Dr. Fried.

The underlying bond between all of these conditions—between patients with acne who are frustrated with previous treatment and patients with seborrheic dermatitis or rosacea who may not be aware of their disease—is their underlying chronicity. Moreover, patients with these conditions often fail to grasp the chronic nature of these diseases. “While many patients want to get rid of acne or seborrheic dermatitis initially, they often do not want to manage it chronically and therefore do not continue using products after initial relief, especially in seborrheic dermatitis,” Dr. Linkner explained. However, many patients may not fully understand the implications of having a chronic condition. “Maintenance is required to manage each of these conditions.”

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conditions, but many patients are not willing to follow through in the longer term,” said Dr. Lio.

While acne may fall under a different category when it comes to chronicity (changing or improving over time due to changes in hormones, Dr. Zeichner observed), patients with acne are often just as frustrated with their illness as patients with seborrheic dermatitis. “Patients want quick action and they want to move on,” according to Dr. Fried, who referred to widespread treatment adherence problems as an issue of “societal non-compliance.”

Addressing the challenge of adherence requires greater patient education, observed Dr. Zeichner. “Patients must understand that treatment needs to become part of their daily regimen, like brushing their teeth.” And yet, despite effective approaches to education and communication, a significant percentage of patients do not adhere.

While there are a host of effective therapies on the market, undertreatment of these conditions may be attributable to an array of factors, some of which are rooted in psychology, according to Dr. Fried. For some patients, “The notion of treating something ‘forever’ may prompt patients to feel like something is ‘wrong’ with them.” Other patients may justify not taking their medication in even simpler terms. “They may think, ‘I’m barely able to get through the day with the 412 things I have to do, I don’t know if I can do 413,’” said Dr. Fried.

Moreover, a substantial percentage of patients with skin disorders suffer from psychological conditions. “Up to 30 percent of patients with skin diseases such as acne, rosacea, and seborrheic dermatitis have significant psychological issues, including depression, anxiety, and social withdrawal,” noted Dr. Fried. “Many patients do not realize how much their skin disease has come to own their time, how much they’ve withdrawn from social situations, not go to social events, look for the dark areas, avoid intimacy, the list goes on and on.”

Another important consideration is that the weight of skin disease on a patient’s life is not easily measurable and depends on each individual. “None of us can ever judge the degree of psychological impairment by a quantitative or objective rating scale. We see people with minimal disease who are devastated, see people with really heavy disease who aren’t happy, but healthy psychologically,” observed Dr. Fried.

OVERLAP CONDITIONS

Apart from any adherence-related difficulties in treatment, a closer examination of the relationship between acne, seborrheic dermatitis, and rosacea reveals several compelling points of clinical overlap. “Physiologically these are all disorders of immune dysregulation, so I think it becomes a question of, on any given day, how does that immune irritability manifest itself?” said Dr. Fried. “It is our job to help patients to understand that in some ways these conditions are an expression of a robust immune system that’s directing its energy in inappropriate ways and inappropriate places and that the treatments that we offer help the immune system to behave a bit better,” explained Dr. Fried.

While overlap is seldom seen between all three disorders, rosacea and seborrheic dermatitis often present together. “Rosacea patients are particularly sensitive in general and it makes sense that there could be overlap with seborrheic dermatitis,” noted Dr. Zeichner.

There is less overlap between rosacea and acne, according to Dr. Baldwin. “I don’t think there is an overlap between rosacea and acne and I often very strictly
want to separate the two because I think the rosacea is an inflammatory disorder. Although acne is an inflammatory disorder as well, I draw the line at using full-dose antibiotics when I cross that line.”

Patients presenting with a seborrheic dermatitis-rosacea overlap represent a challenging subtype to treat. “Because patients sometimes have a mixture of two or more of these diseases, treatment can sometimes overlap,” Dr. Lio observed. However, due to this overlap, physicians need to consider that the treatment of one condition can possibly worsen the other. Commented Dr. Zeichner, “Frequently you’ll want to use a topical cortisone to treat the seborrheic dermatitis but that could exacerbate rosacea.” Often the treatment options that are most suited to each condition are not compatible with each other. “For acne, you generally want a retinoid in the treatment mix, but this can increase inflammation and irritation in seborrheic dermatitis and rosacea,” Dr. Lio noted. “At times we’ll find patients who get certain treatments that address part of the problem but another part of the problem persists, particularly after therapy initiated by a primary care physician (PCP) who may opt for monotherapy, which can lead to undertreatment. Sometimes we need to use more treatments to get synergy between them or use something with more potency.”

THE ROLE OF SODIUM SULFACETAMIDE-BASED AGENTS IN TREATMENT

Creating the ideal regimen for patients with acne, rosacea, and/or seborrheic dermatitis depends on a number of factors, according to the panelists. While treatment guidelines for acne are well defined, less clear are guidelines for rosacea and seborrheic dermatitis. Numerous options are available for each condition individually, but it is important to account for adherence and other potential issues, including overlap. Therefore, Dr. Fried noted, “a regimen that’s simple and elegant is essential.”

One agent that uniquely addresses the variety of factors that must be considered in devising a regimen is sodium sulfacetamide. “Sodium sulfacetamide is very versatile,” noted Dr. Linkner. “It works as an anti-inflammatory product and has a very broad spectrum in terms of its antimicrobial properties, and it is also non-irritating and alcohol-free.”

Sodium sulfacetamide is not typically prescribed in the primary care realm, but Dr. Lio pointed out that this can be turned into an advantage for dermatologists. “It is an elegant agent, which patients usually like, and you can tell them with some certainty, ‘You haven’t tried this before’. Sodium sulfacetamide is a unique agent in our treatment armamentarium, and it is squarely in the domain of dermatologists,” Dr. Lio explained.

The trajectory of sodium sulfacetamide-based agents in the treatment of dermatologic conditions such as acne, rosacea, and seborrheic dermatitis has been inconsistent. With the rise of benzoyl peroxides, retinoids, oral molecules such as isotretinoin, and other agents, the therapeutic role of sodium sulfacetamide-based agents has taken an unpredictable course, often rising and falling over the years. “It’s interesting how sulfur has gone through its cycles,” observed Dr. Fried. “It is wonderful when a really efficacious and well-tolerated product has cycled in different formulations and is re-discovered over the years.”

Studies have shown that sodium sulfacetamide with sulfur active ingredients are effective as a monotherapy in acne,1-3 rosacea,2-5 and seborrheic dermatitis.2,3 They can be used both alone and in combination with other products. “I find that I can use it in acne almost universally and I rarely have any problems with it,” said Dr. Lio. In particular, sodium sulfacetamide with sulfur may be ideal for adult female patients. “Adult female acne patients have often tried a benzoyl peroxide and had uncomfortable irritation, so I find that sodium sulfacetamide with sulfur is a good fit in these instances,” noted Dr. Lio. It can be used effectively in combination in these patients as well, according to Dr. Fried. “I will sometimes have patients use short-contact benzoyl peroxide in the shower and then a sodium sulfacetamide-based moisturizing product.”

Sodium sulfacetamide with sulfur is particularly useful in patients with an overlap of rosacea and seborrheic dermatitis. “There are a lot of people who come in with both rosacea and seborrheic dermatitis, which presents problems for treatment,” said Dr. Baldwin. Since topical steroids can exacerbate rosacea, sodium sulfacetamide with sulfur is an ideal treatment in these situations. “It may not improve rosacea as effectively as it does seborrheic dermatitis, but it doesn’t worsen the rosacea,” says
Dr. Baldwin. “I often treat with sodium sulfacetamide with sulfur first and then add a rosacea medication, usually an oral agent because I don’t want to disturb the skin,” Dr. Baldwin explained.

From a safety standpoint, the adverse event profile of sodium sulfacetamide with sulfur is extremely favorable. There have been some case reports of Stevens-Johnson syndrome after use of topical sulfur products, but these are extremely rare. Dr. Linkner pointed out that because safety concerns are minimal, duration of treatment does not need to be restricted. “It’s a non-steroidal product, so it can be used chronically in patients with these relapsing disorders,” noted Dr. Linkner. Moreover, the tolerability of sodium sulfacetamide is very high. “I don’t think there is such a thing as somebody who can’t tolerate these products unless they’re actually allergic,” Dr. Baldwin explained. “However,” said Dr. Zeichner, “it is important to ask all patients about their allergies, since some patients with rosacea and seborrheic dermatitis who are ideal candidates for sodium sulfacetamide may have an allergy to sulfur.”

**SODIUM SULFACETAMIDE WITHOUT SULFUR AND OTHER FORMULATIONS**

One of the reasons for the versatility of sodium sulfacetamide with sulfur is that it comes in various formulations, such as Avar® LS Cleanser (see accompanying prescribing information). With so many options available, offered Dr. Linkner, “physicians can customize a treatment regimen that’s specific to each patient.”

Sodium sulfacetamide is also available in a non-sulfur formulation cleansing gel, sodium sulfacetamide 10% Ovace® Plus Wash Cleansing Gel (see accompanying prescribing information), which is indicated for the treatment of seborrhic dermatitis and seborrhea sicca. “Sodium sulfacetamide is generally thought of as mildly antibacterial, and anti-inflammatory by itself, as compared to the sulfur moiety, which is pan-antimicrobial,” said Dr. Lio. The presence of sulfur makes for a more powerful product (as evidenced by the broader indication). However, for patients with solely seborrhic dermatitis, or patients who find the odor of sulfur difficult to withstand, sodium sulfacetamide alone may be beneficial, according to Dr. Lio. Importantly, however, even the sodium sulfacetamide product not containing sulfur is contraindicated in patients who have known or suspected sensitivity to sulfonamides, observed Dr. Lio. Thus, though the risk is minimal, it is important to exercise caution when using in patients with sulfur allergies.

In both the sulfur-containing and non-sulfur-containing varieties, there are several formulations and vehicle options available. When it comes to vehicle selection, Dr. Linkner noted that it is always useful to ask patients if they think they land on the dry/sensitive versus the oily end of the spectrum. “For the oily end of the spectrum, maybe a cleanser would be more appropriate; something to use in the shower versus something that’s leave-on, like an emollient lotion or foam, if you’re on the dry end of the spectrum,” said Dr. Linkner. “Having the patient’s perspective and knowing what they actually want to get out of the product is essential, particularly when there are so many different formulations available.”

One product that Dr. Fried has found beneficial is the emollient cream. “I find that patients really like the emollient cream product, particularly those who have any kind of atopic tendencies or just dry skin.”

Dr. Zeichner believes that the controlling cleanser is particularly beneficial. “Patients with rosacea and seborrheic dermatitis are looking for dermatologists to tell them what topical treatments to use, and this should include cleanser and moisturizer recommendations. Prescription cleansers with therapeutic effects are beneficial for these patients,” said Dr. Zeichner.

The cleanser may not be as efficacious in rosacea patients as compared to seborrheic dermatitis, but rosacea patients can still benefit from the extra boost of sulfur, according to Dr. Lio. In particular, Dr. Lio prefers the cleanser because it can be used in combination with various other products. “For a rosacea patient, you can use other agents in conjunction with the cleanser, such as metronidazole or azelaic acid,” said Dr. Lio. For seborrheic dermatitis, Dr. Lio noted that another antifungal agent like ketoconazole or a low-potency steroid or topical calcineurin inhibitor can be added, as well. “To be able to use the cleanser in conjunction with various other products can result in good synergy of treatments,” observed Dr. Lio. “And if you foresee that adherence may become an issue, I often recommend leaving the bottle in the shower and tell them to use it once a day.”

Dr. Fried concurred. “I think the nice thing with the cleansers is it really does leave you wide open to any other kind of emollient, any other kind of medication.”

“According to Dr. Fried, ‘The benefits of sodium sulfacetamide can be summed up in three points: Flexibility, efficacy, and track record of safety.’”
CONCLUSION

When it comes to managing conditions such as acne, seborrheic dermatitis, and rosacea, Dr. Zeichner believes that proper diagnosis is the most important priority. “You need to know what you’re treating and that you are treating it properly,” he noted. Certainly, overlap between conditions can complicate treatment, which is why Dr. Fried believes that sodium sulfacetamide fills a very important niche. “If you’re not sure what you’re treating, choose something that could potentially treat both,” he observed. “That’s not great medicine but sometimes with the overlaps you really are not sure.”

When uncertainties arise, Dr. Zeichner noted that giving patients topical steroids can be problematic. “When you are not sure, you should not necessarily give a topical steroid, especially on the face, as that can exacerbate rosacea and possibly encourage development of perioral or periocular dermatitis,” said Dr. Zeichner.

Sodium sulfacetamide products are ideal in this regard, because they have the potential to treat overlap conditions, are tolerated very well, and have a long track record of safety. “Even if you are not fully sure of the diagnosis, with an agent like sodium sulfacetamide you will not be making the condition worse, and hopefully you will be making any one of them better,” explained Dr. Baldwin.

In addition, given the ebbs and flows of sodium sulfacetamide’s therapeutic role in the management of these conditions, many patients will not have tried it before and may be more willing adhere to the regimen. Moreover, the versatility and range of options available (both with and without sulfur) make sodium sulfacetamide products ideal for combination and maintenance therapy, according to Dr. Linkner. “To have a product like this that has such a broad antibacterial and antifungal spectrum, an anti-inflammatory mechanism of action, and comes in so many different formulations that you can wash it off or leave it on, is really a benefit for physicians and patients,” she said. According to Dr. Fried, “The benefits of sodium sulfacetamide-based agents can be summed up in three points: Flexibility, efficacy, and track record of safety,” making sodium sulfacetamide one of the most versatile and reliable agents.

Said Dr. Linkner: “When you are dealing with conditions like acne, rosacea, and seborrheic dermatitis, it’s something that you should have in your armamentarium to really depend on.” And when there is overlap, noted Dr. Lio, “it is often exactly what is needed to tie the treatments together.”

2. Sodium Sulfacetamide 10%-Sulfur 5% (SSS) for the topical treatment of seborrheic dermatitis, acne vulgaris, and rosacea. Poster Presentation. 2013 Fall Clinical Dermatology Meeting.

This editorial supplement is based on a roundtable discussion held in March 2014 in Denver, CO. Support for the roundtable discussion and subsequent publication was provided to Practical Dermatology by Mission Pharmacal. The panelists received honoraria for their participation in this editorial program.
AVAR® LS Cleanser  
(sodium sulfacetamide 10%, sulfur 2%)

Rx Only

FOR EXTERNAL USE ONLY. NOT FOR OPHTHALMIC USE.

DESCRIPTION: Each gram contains 100 mg of sodium sulfacetamide and 20 mg of colloidal sulfur in a vehicle consisting of: benzyl alcohol, cetyl alcohol, fragrance, glyceryl stearate (and) PEG-100 stearate, magnesium aluminum silicate, phenoxyethanol, propylene glycol, purified water, sodium lauryl sulfate, sodium magnesium silicate, sodium thiosulfate, stearyl alcohol and xanthan gum.

Sodium sulfacetamide is a sulfonamide with antibacterial activity while sulfur acts as a keratolytic agent. Sodium sulfacetamide is C₆H₃N₂NaO₃S.H₂O with molecular weight of 254.24. Chemically, sodium sulfacetamide is N-[(4-aminophenyl) sulfonyl]-acetamide, monosodium salt, monohydrate. The structural formula is:

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  Na⁺
H₂N——SO₂NCOCH₃·H₂O
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Sodium sulfacetamide is an odorless, white, crystalline powder with a bitter taste. It is freely soluble in water, sparingly soluble in alcohol, while practically insoluble in benzene, in chloroform and in ether.

CLINICAL PHARMACOLOGY: Sodium sulfacetamide exerts a bacteriostatic effect against sulfonamide sensitive Gram-positive and Gram-negative microorganisms commonly isolated from secondary cutaneous pyogenic infections. It acts by restricting the synthesis of folic acid required by bacteria for growth, by its competition with para-aminobenzoic acid. There is no clinical data available on the degree and rate of systemic absorption of this product when applied to the skin or scalp. However, significant absorption of sodium sulfacetamide through the skin has been reported.

The following in vitro data is available but the clinical significance is unknown. Organisms that show susceptibility to sodium sulfacetamide are: Streptococci, Staphylococci, E. coli, Klebsiella pneumoniae, Pseudomonas pyocyanea, Salmonella species, Proteus vulgaris, Nocardia and Actinomyces.

The exact mode of action of sulfur in the treatment of acne is unknown, but it has been reported that it inhibits the growth of Propionibacterium acnes and the formation of free fatty acids.

INDICATIONS: This product is indicated for use in the topical control of acne vulgaris, acne rosacea and seborrheic dermatitis.

CONTRAINDICATIONS: This product is contraindicated in persons with known or suspected hypersensitivity to any of the ingredients of the product. This product is not to be used by patients with kidney disease.

WARNINGS: Sulfonamides are known to cause Stevens-Johnson syndrome in hypersensitive individuals. Stevens-Johnson syndrome also has been reported following the use of sodium sulfacetamide topically. Cases of drug-induced systemic lupus erythematosus from topical sulfacetamide also have been reported. In one of these cases, there was a fatal outcome. KEEP OUT OF THE REACH OF CHILDREN.

PRECAUTIONS: FOR EXTERNAL USE ONLY. NOT FOR OPHTHALMIC USE.

General: Nonsusceptible organisms, including fungi, may proliferate with the use of this preparation.

Although rare, sensitivity to sodium sulfacetamide may occur. Therefore, caution and careful supervision should be observed when prescribing this drug for patients who may be prone to hypersensitivity to topical sulfonamides. If the use of this product produces signs of hypersensitivity or other untoward reactions, discontinue use of the preparation. Patients should be carefully observed for possible local irritation or sensitization during long-term therapy. Systemic toxic reactions such as agranulocytosis, acute hemolytic anemia, purpura hemorrhagica, drug fever, jaundice and contact dermatitis indicate hypersensitivity to sulfonamides. Particular caution should be employed if areas of denuded or abraded skin are involved. Systemic absorption of topical sulfonamides is greater following application to large, infected, abraded, denuded or severely burned areas. Under these circumstances, any of the adverse effects produced by the systemic administration of these agents could potentially occur; and appropriate observations and laboratory determinations should be performed. The object of this therapy is to achieve
desquamation without irritation, but sodium sulfacetamide and sulfur can cause reddening and scaling of the epidermis. These side effects are not unusual in the treatment of acne vulgaris, but patients should be cautioned about the possibility.

**Information for Patients:** Patients should discontinue the use of this product if the condition becomes worse or if a rash develops in the area being treated or elsewhere. The use of this product also should be discontinued promptly and the physician notified if any arthritis, fever or sores in the mouth develop. Avoid contact with eyes, lips and mucous membranes.

**Drug Interactions:** This product is incompatible with silver preparations.

**Carcinogenesis, Mutagenesis and Impairment of Fertility:** Long-term animal studies for carcinogenic potential have not been performed on this product to date. Studies on reproduction and fertility also have not been performed. Chromosomal nondisjunction has been reported in the yeast, Saccharomyces cerevisiae, following application of sodium sulfacetamide. The significance of this finding to the topical use of sodium sulfacetamide in the human is unknown.

**Pregnancy:** *Category C.* Animal reproduction studies have not been conducted with this product. It is also not known whether this product can affect reproduction capacity or cause fetal harm when administered to a pregnant woman. This product should be used by a pregnant woman only if clearly needed or when potential benefits outweigh potential hazards to the fetus.

**Nursing Mothers:** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when this product is administered to a nursing woman.

**Pediatric Use:** Safety and effectiveness in children under the age of 12 years have not been established.

**ADVERSE REACTIONS:** Reports of irritation and hypersensitivity to sodium sulfacetamide are uncommon. The following adverse reactions, reported after administration of sterile ophthalmic sodium sulfacetamide, are noteworthy: instances of Stevens-Johnson syndrome and instances of local hypersensitivity which progressed to a syndrome resembling systemic lupus erythematosus; in one case a fatal outcome was reported (see WARNINGS).

**OVERDOSAGE:** The oral LD₅₀ of sulfacetamide in mice is 16.5 g/kg. In the event of overdosage, emergency treatment should be started immediately.

**Manifestations:** Overdosage may cause nausea and vomiting. Large oral overdosage may cause hematuria, crystalluria and renal shutdown due to the precipitation of sulfonamide crystals in the renal tubules and the urinary tract. For treatment, contact your local Poison Control Center or your doctor.

**DOSAGE AND ADMINISTRATION:** Wash affected areas once or twice daily, or as directed by your physician. Wet skin and liberally apply to areas to be cleansed. Massage gently into skin for 10 to 20 seconds, working into a full lather, rinse thoroughly and pat dry. If skin dryness occurs, it may be controlled by rinsing product off sooner or using less frequently.

**STORAGE:** Store at 20°C to 25°C (68°F to 77°F), excursions permitted between 15°C and 30°C (between 59°F and 86°F). Brief exposure to temperatures up to 40°C (104°F) may be tolerated provided the mean kinetic temperature does not exceed 25°C (77°F); however, such exposure should be minimized.

**NOTICE:** Protect from freezing and excessive heat. The product may tend to darken slightly on storage. Slight discoloration does not impair the efficacy or safety of the product. Keep bottle tightly closed.

Occasionally, a slight discoloration of fabric may occur when an excessive amount of the product is used and comes in contact with white fabrics. This discoloration, however, presents no problem, as it is readily removed by ordinary laundering without bleaches.

**HOW SUPPLIED:** This product is supplied in the following size(s):

- 8 oz. (227 g) bottles, NDC 0178-0475-08

To report a serious adverse event or obtain product information, call 1-800-298-1087.
OVACE® PLUS WASH
(sodium sulfacetamide 10%) Cleansing Gel
Rx Only

FOR EXTERNAL USE ONLY. NOT FOR OPHTHALMIC USE.

DESCRIPTION: Each gram of OVACE® Plus Wash (sodium sulfacetamide 10% w/w) contains 100 mg of sodium sulfacetamide incorporated into a specially formulated oil and water emulsion (O/W™), delivered in a gel vehicle consisting of cocamidopropyl betaine, sodium thiosulfate, emulsifying wax, glyceryl stearate SE, cetaryl alcohol (and) PEG-3 distearoyletiohexonium methosulfate (and) polysorbate 60, PEG-150 penterythritol tetraesterate (and) aqua (and) PEG-6 caprylic/capric glycerides, methylparaben, purified water, sodium laureth ether sulfate, disodium EDTA dihydrate, xanthan gum and fragrance.

Sodium sulfacetamide is C8H9N2NaO3S·H2O with a molecular weight of 254.24. Chemically, it is N-(4-aminophenylsulfonfyl)-acetamide, monosodium salt, monohydrate. The structural formula is:

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H2N
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Sodium sulfacetamide is an odorless, white, crystalline powder with a bitter taste. It is freely soluble in water, sparingly soluble in alcohol, while practically insoluble in benzene, in chloroform and in ether.

This O/W™ formulation has been shown to provide gradual and prolonged release of the active ingredient into the skin.

CLINICAL PHARMACOLOGY: Sodium sulfacetamide exerts a bacteriostatic effect against sulfonamide sensitive Gram-positive and Gram-negative microorganisms commonly isolated from secondary cutaneous pyogenic infections. It acts by restricting the synthesis of folic acid required by bacteria for growth, by its competition with para-aminobenzoic acid. There is no clinical data available on the degree and rate of systemic absorption of OVACE® Plus Wash when applied to the skin or scalp. However, significant absorption of sodium sulfacetamide through the skin has been reported.

The following in vitro data is available but the clinical significance is unknown. Organisms that show susceptibility to sodium sulfacetamide are: Streptococci, Staphylococci, E. coli, Klebsiella pneumoniae, Pseudomonas pyocyanea, Salmonella species, Proteus vulgaris, Nocardia and Actinomycetes.

INDICATIONS AND USAGE: OVACE® Plus Wash is intended for topical application in the treatment of seborrhoeic dermatitis, seborrhea sicca (dandruff). It is also used in the treatment of secondary cutaneous bacterial infections of the skin due to organisms susceptible to sulfonamides.

CONTRAINDICATIONS: OVACE® Plus Wash is contraindicated in persons with known or suspected hypersensitivity to sulfonamides or to any of the ingredients of the product.

WARNINGS: Sulfonamides are known to cause Stevens-Johnson syndrome in hypersensitive individuals. Stevens-Johnson syndrome also has been reported following the use of sodium sulfacetamide topically. Cases of drug-induced systemic lupus erythematosus from topical sulfacetamide also have been reported. In one of these cases, there was a fatal outcome. KEEP OUT OF THE REACH OF CHILDREN.

PRECAUTIONS: FOR EXTERNAL USE ONLY. NOT FOR OPHTHALMIC USE.

General: Nonususceptible organisms, including fungi, may proliferate with the use of this preparation. Hypersensitivity reactions may recur when a sulfonamide is readministered, irrespective of the route of administration, and cross hypersensitivity between different sulfonamides may occur. If OVACE® Plus Wash produces signs of hypersensitivity or other untoward reactions, discontinue use of the preparation. Systemic absorption of topical sulfonamides is greater following application to large, infected, abraded, denuded or severely burned areas. Under these circumstances, any of the adverse effects produced by the systemic administration of these agents could potentially occur, and appropriate observations and laboratory determinations should be performed.

Information for Patients: Patients should discontinue OVACE® Plus Wash if the condition becomes worse, or if a rash develops in the area being treated or elsewhere. OVACE® Plus Wash also should be discontinued promptly and the physician notified if any arthritis, fever or sores in the mouth develop.

Drug Interactions: OVACE® Plus Wash is incompatible with silver preparations.

Pharmacology: OVACE® Plus Wash has a bacteriostatic effect against Gram-positive and Gram-negative microorganisms commonly isolated from secondary cutaneous pyogenic infections.

Carcinogenesis, Mutagenesis and Impairment of Fertility: Long-term animal studies for carcinogenic potential have not been performed on OVACE® Plus Wash to date. Studies on reproduction and fertility also have not been performed. Chromosomal nondisjunction has been reported in the yeast, Saccharomyces cerevisiae, following application of sodium sulfacetamide. The significance of this finding to the topical use of sodium sulfacetamide in the human is unknown.

Pregnancy: Category C. Animal reproduction studies have not been conducted with OVACE® Plus Wash. It is also not known whether OVACE® Plus Wash can affect reproduction capacity or cause fetal harm when administered to a pregnant woman. OVACE® Plus Wash should be used by a pregnant woman only if clearly needed or when potential benefits outweigh potential hazards to the fetus.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when OVACE® Plus Wash is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children under the age of 12 years has not been established.

ADVERSE REACTIONS: Reports of irritation and hypersensitivity to sodium sulfacetamide are uncommon. The following adverse reactions, reported after administration of sterile ophthalmic sodium sulfacetamide, are noteworthy: instances of Stevens-Johnson syndrome and instances of local hypersensitivity which progressed to a syndrome resembling systemic lupus erythematosus; in one case a fatal outcome was reported (see WARNINGS). TELL YOUR DOCTOR FOR MEDICAL ADVICE ABOUT SIDE EFFECTS. To report SUSPECTED ADVERSE REACTIONS, contact the FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

OVERDOSAGE: Tel er LD50 of sulfacetamide in mice is 16.5 g/kg. In the event of overdosage, emergency treatment should be started immediately.

Manifestations: Overdosage may cause nausea and vomiting. Large oral overdosage may cause hematemesis, crystalluria and renal shutdown due to the precipitation of sulfa crystals in the renal tubules and the urinary tract. For treatment, contact your local Poison Control Center or your doctor.

DOSE AND ADMINISTRATION: Seborrheic dermatitis including seborrhoea sicca - Wash affected areas twice daily (morning and evening), or as directed by your physician. Avoid contact with eyes or mucous membranes. Wet skin and liberally apply to areas to be cleansed, massage gently into skin working into a full lather, rinse thoroughly, pat dry and repeat after 10 to 20 seconds. Rinsing with plain water will remove any excess medication. Repeat application as described for 8 to 10 days. If skin dryness occurs it may be controlled by rinsing cleanser off sooner or using less frequently. Regular shampooing following OVACE® Plus Wash is not necessary, but the hair should be shampooed at least once a week. As the condition subsides, the interval between applications may be lengthened. Applications once or twice weekly or every other week may prevent recurrence. Should the condition recur after stopping therapy, the application of OVACE® Plus Wash should be reintroduced.

Secondary cutaneous bacterial infections - Wet skin and liberally apply to areas to be cleansed, massage gently into skin for 10 to 20 seconds working into a full lather, rinse thoroughly and pat dry. Rinsing with plain water will remove any excess medication. Repeat application as described for 8 to 10 days. If skin dryness occurs it may be controlled by rinsing cleanser off sooner or using less often.

HOW SUPPLIED: OVACE® Plus Wash is available in a 12 fl. oz. (355 mL) bottle, NDC 0178-0490-12, and 5 g sample packets, NDC 0178-0490-05.

Store at 25°C (77°F); excursions permitted to 15° to 30°C (59° to 86°F). See USP Controlled Room Temperature.

Note: Protect from freezing and excessive heat. The product may tend to darken slightly on storage. Slight discoloration does not impair the efficacy or safety of the product. Keep container or packet tightly closed.

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