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Review Article

Expert Opine: A Report on Acne Management in India

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Abstract

Background: Glenmark Enabled Expert Exchange, a platform that aims to bring together the clinical acumen of expert and experienced dermatologists in the management of acne, was started by Glenmark in 2014.

Methods: About 65 meetings were conducted on acne across India where 1050 dermatologists participated and shared their experiences on the use of retinoids, use of combination therapies and adherence to treatment.

Result: Retinoid and combination treatment in acne: (a) Cumulative dose of isotretinoin is important, (b) isotretinoin should not be used with topical retinoids, (c) isotretinoin can exacerbate depression, (d) detailed counseling regarding isotretinoin is imperative, (e) implications of pregnancy while on isotretinoin should be discussed with unmarried women too, (f) pregnancy test is mandatory but other blood tests have no role, (g) no other systemic drug for acne should be prescribed with isotretinoin, (h) adapalene is better than any other topical retinoid in terms of safety, (i) topical retinoids can be used in pregnancy, (j) combination treatment is superior to monotherapy, and (k) adapalene and benzoyl peroxide (BPO) combination is preferable over other combinations. Adherence in the treatment of acne: (a) Detailed counseling should be done regarding disease profile and diet; (b) follow-up visit after 1 week of treatment and minimum use of cosmetics should be advised; and (c) only prescribed cleansers/moisturizers should be used.

Conclusion: Among retinoids, oral isotretinoin remains the gold standard for acne therapy whereas adapalene and BPO combination is the preferred combination. Counseling also plays an important role in adherence to treatment.

Key words: Adherence, Glenmark Enabled Expert Exchange, Isotretinoin, Retinoids

INTRODUCTION

Acne vulgaris is a chronic multifactorial disorder of the pilosebaceous follicle with a prevalence of almost 95%.[1] Although it affects people of all ages, but primarily occurs in adolescent age. It is characterized by various clinical presentations such as comedones, papules, pustules, and nodules. Its pathogenesis is multifactorial which includes increased sebum production, follicular hyperkeratinization, colonization of *Propionibacterium acne* and inflammation.[2,3] Although it is not a life-threatening disease, it may have deleterious effects on the quality of life of affected individuals.

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Due to a better understanding of the pathogenesis, new therapeutic options are available for acne and fortunately, acne is responsive to the wide-range of medications with the goals of therapy being to clear the lesions, prevent scarring and minimize treatment-related side effects. Currently available newer fixed-dose combination drugs target multiple acne pathogenic factors, ensure efficacy and improved tolerability and thus fulfill patient expectations. In spite of the wide availability of antiacne medications, successful management of acne needs careful selection of antiacne drugs according to clinical presentation and individual patient expectations. The purpose of this article is to review the treatment options available in India in this scenario.

Due to the availability of multiplicity of treatment options, every dermatologist treats acne based on clinical evidence

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and using his clinical acumen. Hence, a lot of new things are happening at individual level of doctor. Hence, to gain insights into the different treatment options for acne, Glenmark created Glenmark Enabled Expert Exchange (GEEX). GEEX, a platform that aims to bring together the clinical acumen of expert and experienced dermatologists in the management of acne in India.

About 70 meetings were conducted on acne across India between May 2014 and October 2015. A total of 1050 dermatologists participated in the meetings. Various topics on acne were discussed, but more focus was given on treatment and adherence in acne management. Under acne treatment, different topics were discussed such as use of retinoids, use of combination therapies, role of supportive modalities, and newer aspects in management of acne.

The key discussion points are summarized below:

TREATMENT IN ACNE

Topical Retinoids

Dermatologists are using retinoids for more than 30 years. Many guidelines suggest using topical retinoid as the first line therapy, alone or in combination, for mild to moderate inflammatory acne. For maintenance therapy; it is the most preferred agent. Topical retinoids target the microcomedo, normalizes follicular desquamation and reduces follicular plugging. The efficacy of topical retinoids is well-established in many clinical trials.[4-9]

As a result, retinoids are both comedolytic and anticomedogenic, making them an effective treatment for open comedones, closed comedones, and papules. They also help in penetration of other topical medications, hence decreasing post inflammatory hyperpigmentation which makes them integral part of acne management.[10]

Among available topical retinoids; tretinoin and adapalene are the most studied topical retinoids for acne management worldwide.[11] Adapalene is generally well-tolerated and efficacious than all other retinoids.[8,12] The common side effects with topical retinoid are dryness and irritant dermatitis which may vary depending on skin type, sensitivity, and formulations. Furthermore, retinoids can increase sensitivity to the sun, so sun screen use should be encouraged.[10]

Isotretinoin

Isotretinoin is an oral retinoid that is indicated for moderate acne to severely cystic unresponsive to adequate conventional therapy.[13,14] It is the only drug which affects all the pathogenic factors in the etiology of acne.

Despite many clinical studies, there is a lack of consensus on dosing schedule of isotretinoin. Although the approved dose is 0.50-2 mg/kg/day for 20 weeks,[15-17] many dermatologists are using low dose for longer periods with a total cumulative dose of 120-160 mg/kg. Many of the doctors do not follow or use the cumulative dose concept for the management of acné.[16]

The greatest concern regarding the use of isotretinoin is the teratogenic potential. Therefore, a negative pregnancy test is mandatory before isotretinoin treatment for women of child bearing age. Furthermore, implications of pregnancy while on isotretinoin should be discussed with unmarried women too. A strict contraceptive measure is essential during isotretinoin therapy. As a result, a new risk management program (iPLEDGE) has been developed in the U.S.[18,19]

Depression is also one of the most important side effects of isotretinoin therapy. However, there is a debate about whether isotretinoin causes depression itself or it exaggerates underlying depression in acne patients. Other side effects include those of inflammatory bowel disease, musculoskeletal, cheilitis, and ophthalmic systems.[17,20] Most of the side effects are temporary and resolves once the drug is discontinued. Hence, detailed counseling is imperative before isotretinoin therapy.

Benzoyl Peroxide (BPO)

BPO is a broad spectrum bactericidal agent which is effective due to its oxidizing activity with comedolytic and anti-inflammatory activity indicated in mild to moderate acne.[10,21,22] It is available in different formulations and concentrations (2.5-10%) of which gels are more stable and effective.[23-25]

At present, there is no documentation of bacterial resistance with BPO; hence it can be combined with topical antibiotics to minimize resistance.[20] The major concern with BPO is its potential for irritation or dryness and bleaching of clothes and hair.[26] It also induces irritant dermatitis.[27] It mostly subsides with the continued use of BPO. For facial acne, the lower concentrations are better tolerable and higher concentrations are acceptable for chest, back, and arms In addition, BPO washes seems to be effective in truncal acne.

Topical Antibiotics

Topical antibiotics such as erythromycin and clarithromycin are often prescribed in inflammatory acne. They act through inhibition of *P. acne* and also reduce inflammation. In India, they are available in conjunction with either zinc or nicotinamide, but there is no evidence of efficacy and safety.[28-30]

The major problem with topical antibiotics is bacterial resistance; hence it is usually combined with other topical modalities such as BPO or topical retinoids to achieve therapeutic response.[5,31] In India, other topical antibiotics such as clarithromycin, azithromycin, and nadifloxacin are also available, there is very scarce data regarding efficacy and safety.[32]

COMBINATION THERAPY

For successful treatment of acne, new formulations in combination therapy have been developed. These formulations will not only increase the efficacy of the treatment but also boost the adherence.[32] Furthermore, they minimize the resistance. Some of the examples include adapalene-benzoyl peroxide gel, clindamycin-adapalene gel, and clindamycin-benzoyl peroxide gel.[5]

Other Topical Agents

- Salicylic acid: Although it is less potent than retinoid, it has been used in acne in peels.[33]
- Azelaic acid: It is effective in inflammatory and comedonal acne. Some doctors use it in pregnant patient.[34,35]
- Dapsone gel 5%: It has anti-inflammatory and antimicrobial properties. In mild to moderate acne, it is safe and effective. But due to availability of better drugs, the use of topical dapsone among dermatologists is minimal.[36]

Oral Antibiotics

In moderate to severe acne, oral antibiotics are commonly prescribed.[24] Tetracyclines and derivatives are commonly used antibiotics since they have antibacterial and anti-inflammatory properties.[20,37] Azithromycin and cotrimoxazole/trimethoprim are other alternatives.

The most common side effect is gastrointestinal upset. Others include photosensitivity, pigment deposition in the skin, and autoimmune hepatitis. Due to increasing antibiotic resistant *P. acne*, there is a need to consider antibiotic prescribing practices and to promote the use of non-antibiotic or combination preparations wherever possible.

Antibiotic should be combined with topical retinoid or BPO to minimize resistance. Duration of therapy should be limited to 6-8 weeks. Concomitant use of oral and topical antibiotics is to be avoided.

HORMONAL TREATMENT

Hormonal therapy is relevant in females only. It is useful in premenstrual flares of acne. It is usually needed in female patients with severe seborrhea and geared toward the prevention of the effects of androgens on the sebaceous gland.

Oral contraceptives work by decreasing level of circulatory androgens.[38,39] Spironolactone can also be used in the treatment of acne despite FDA approval.[40,41] Hormonal therapy is very much beneficial in inflammatory papules of the lower face and neck. Duration of therapy is usually 3-6 months and should be combined with topical acne regime.

Diet

The myth about acne exaggeration with diet is widespread; hence the association between diet and acne needs to been lightened. Some studies support the link between milk products and exaggerated acne lesions. Furthermore, foods with high glycemic index, chocolates, and fried food are possible triggers for acne, but data are conflicting.[42-44]

In-office Procedures

Intralesional corticosteroids

A single shot of corticosteroids like triamcinolone acetonide can be useful in acne but has to be used in conjunction with other acne treatment.[20]

Acne surgery

Extraction of comedones and draining of pustules are usually done by comedone extractor tool, but care must be taken.[4]

Chemical peels

Superficial chemical peels such as salicylic acid, glycolic acid, and Jessner's solution are useful in acne treatment since they exert comedolytic, exfoliating, and anti-inflammatory actions. They are also useful in improvement of post inflammatory hyperpigmentation and skin texture. Peels should be considered as an adjuvant therapy in the treatment of all grades of acne since its addition leads to a quick clinical response and patient satisfaction.

Laser treatment and phototherapy

The usefulness of lasers and light therapy in the management of acne is still in the development stage. These treatments either work by decreasing the *P. acne* levels, decreasing the sebum excretion, or by reducing the inflammation.[45] However, the long-term efficacy and safety is still to be clarified.[5,46]

Adherence in treatment of acne

Irrespective of the treatment regime, detailed counseling should be done regarding the disease profile and diet. Furthermore, patients should be asked for follow-up visit

after 1 week of treatment and minimum use of cosmetics should be advised. In addition, non-comedogenic cleansers and moisturizers should be preferred. Treatment should be tailored as per patient's schedule and lifestyle for adherence.

CONCLUSION

A wide range of treatment options is available for acne vulgaris. However, treatment should be aimed at patient wellbeing such as clearing lesions, improving appearance, and prevention of scars. Monotherapy with topical antibiotics often gives unsatisfactory results and can lead to resistance; hence combination therapy with adapalene and BPO should be preferred. In moderate to severe acne, oral therapies like isotretinoin are preferred. Cumulative dose of isotretinoin should be practiced. Since acne is a chronic disorder, response to treatment may take several weeks to months and this need to be counseled to the patients.

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