doi:10.36849/JDD.6173

Disseminate and Recurrent Infundibulofolliculitis: An Under-Recognized Yet Treatable Entity

Betty C. Ma BA,[a] Vikram Nath Sahni BS,[b] Dev Ram Sahni MD MHA,[c] Aaron M. Secrest MD PhD[c]

[a]School of Medicine, Virginia Commonwealth University, Richmond, VA
[b]College of Medicine, Drexel University, Philadelphia, PA
[b]Department of Dermatology, University of Utah Health, Salt Lake City, UT

ABSTRACT

Disseminate and recurrent infundibulofolliculitis (DRIF) is a pruritic papular eruption that predominantly affects young adults with Fitzpatrick skin types 4-6. Due to DRIF's rarity and under-recognition, no standardized treatment guidelines exist. However, several oral agents have been used, including vitamin A, antibiotics, and retinoids. Topical agents, such as calcineurin inhibitors and mid-potency steroids, can also be efficacious. This brief communication summarizes treatments for DRIF in the published literature.

J Drugs Dermatol. 2021;20(12):1353-1354. doi:10.36849/JDD.6173

INTRODUCTION

Disseminate and recurrent infundibulofolliculitis (DRIF) is a rare skin condition of unknown etiology first reported by Hitch and Lund in 1968.[1] In our clinical practice, we have encountered this condition infrequently, but it poses a significant therapeutic challenge. Characterized by skin-colored follicular papules on the trunk and proximal extremities, DRIF is more prevalent among young men of African descent and those with Fitzpatrick skin types 4-6.[1] The papules are pruritic and can demonstrate trichosis and become pustular.[1,5] DRIF is often self-limiting; however, the pruritic component can be bothersome.

The etiology of the condition is not known, and it is often misdiagnosed or underrecognized as a clinical entity. However, the pathophysiology is similar to other folliculitis disorders with an inflammatory infiltrate affecting the infundibulum.[1,2] As a consensus is lacking on standardized treatment of DRIF, clinician preference often drives treatment. The aim of this brief communication is to summarize effective treatments for DRIF.

METHODS

A search was conducted using the PubMed database. The following keywords were searched in batch phrases: disseminate, recurrent, infundibulofolliculitis, and treatment.

RESULTS

A variety of treatments have been used and have demonstrated success at alleviating DRIF symptoms (Table 1).[1-10]

DISCUSSION

Treatment of DRIF remains widely anecdotal. Oral vitamin A and isotretinoin can be efficacious due to their promotion of decreased follicular turnover and slower keratinization.[2,6,8] A combination of oral vitamins A and E appears to have beneficial outcomes as well. However, oral retinoids are often limited by their systemic side effects and resultant laboratory abnormalities. Although topical retinoids have not been trialed in literature, we contend that they would likely also be beneficial given similar mechanisms of action.

Alternative treatments with smaller sample sizes include light therapy, topical steroids, and topical calcineurin inhibitors. Narrow-band ultraviolet B therapy and methoxypsoralen plus ultraviolet A therapy(PUVA) promote altered cytokine expression, which can result in apoptosis and increased immunosuppression of Langerhans cells. Both topical steroids and calcineurin-based inhibition promote decreased inflammation and irritation. Antibiotics with added anti-inflammatory properties can reduce DRIF-associated infundibular swelling.[1,9,10]

With only a handful of DRIF cases documented, knowledge regarding disease maintenance and time course for treatment is limited. However, improvement typically occurs within 4 to 8 weeks. Relapse can occur, and it is unclear based on existing literature if repeat treatment with the same modality or adjunct therapy is necessary.

Ultimately, DRIF remains an uncommon and underdiagnosed

TABLE 1.

Summary of DRIF Treatment Methods from Past Research Studies

References	Study Type	Number of Subjects	Treatment	Outcome
Shakoei et al.[1]	Case Report	1	Oral doxycycline 100 mg QD	Significant improvement in pruritus and pustular lesions after 3 months
Owen and Wood[2]	Case Series	5	Oral vitamin A 50,000 units BID	Significant subjective and objective improvement after 4 to 8 weeks
Ravikumar et al.[3]	Case Report	1	PUVA: oral 8-methoxypsoralen then ultraviolet A exposure 2 hours later (start at 2 J and increase slowly to 8 J). Initial treatment three times a week. After 3 weeks, treatment twice a week for maintenance	Significant improvement in lesions after 3 weeks
Hinds and Heald[4]	Case Report	1	Fluocinonide cream (0.05%) QD. After 2 months, fluocinonide cream once a week for maintenance	Significant improvement in lichenification, pruritus, papules, and pustules after 2 months
Nair et al.[5]	Case Report	1	Narrow-band ultraviolet B and topical tacrolimus (0.1%)	Moderate improvement after 8 weeks
Çalka et al.[6]	Case Report	1	Oral isotretinoin 0.5 mg/kg QD	Significant improvement in lesions after 3 months
Aroni et al.[7]	Case Report	1	Oral isotretinoin 10 mg QD for 15 days, then 30 mg QD for 2 months	Remission after 45 days
Aroni et al.[8]	Case Report	1	Oral isotretinoin 0.6 mg/kg QD for 4 months	Remission after 4 weeks
Thew and Wood[9]	Case Report	1	Diphenhydramine hydrochloride 50 mg TID and triamcinolone cream (0.025%) locally	Significant improvement after 3 weeks. Two subsequent flares over following year; both spontaneously self-resolved
Hitch and Lund[10]	Case Report	2	Patient 1: Methdilazine hydrochloride 8 mg BID Patient 2: Trimeprazine and methdilazine hydrochloride (unspecified dose)	Patient 1: Asymptomatic after 2 weeks. Complete resolution after 5 months Patient 2: Questionable benefit but asymptomatic after 5 months

Legend: QD = Everyday, BID = Twice Daily, TID = Thrice Daily

disorder. A question that should arise in clinicians' minds when they encounter a patient with DRIF is whether the condition requires treatment. Factors such as the severity of the patient's DRIF and its impact on the patient's quality of life should be considered due to the often benign and self-limiting course of the condition.[2] Systemic therapies should be reserved for prolonged or recalcitrant disease.

This brief communication summarizes effective treatments for disseminate and recurrent infundibulofolliculitis and highlights a barrier to standardizing DRIF treatment. DRIF is often under-recognized, and identification is paramount for efficacious treatment. Clinicians should be aware that this skin condition can spontaneously resolve and the variety of modalities available for treatment.

DISCLOSURES

The authors declare no conflicts of interest or funding.

REFERENCES

1. Shakoei S, Ghanadan A, Razavi Z, Seraji S. A case of disseminate and recurrent infundibulofolliculitis successfully responded to oral doxycycline: A case report. *Australas J Dermatol.* 2020;61(4):e453-e454. doi: 10.1111/ajd.13357. Epub 2020 Jun 16.
2. Owen WR, Wood C. Disseminate and Recurrent Infundibulofolliculitis. Arch Dermatol. 1979;115(2):174–175. doi:10.1001/archderm.1979.04010020020007
3. Ravikumar BC, Balachandran C, Shenoi SD, Sabitha L, Ramnarayan K. Disseminate and recurrent infundibulofolliculitis: response to psoralen plus UVA therapy. *Int J Dermatol.* 1999;38(1):75-6. doi: 10.1046/j.1365-4362.1999.00482.x.
4. Hinds GA, Heald PW. A case of disseminate and recurrent infundibulofolliculitis responsive to treatment with topical steroids. *Dermatol Online J.* 2008;14(11):11.
5. Nair SP, Gomathy M, Kumar GN. Disseminate and recurrent infundibulofolliculitis in an Indian patient: A case report with review of literature. *Indian Dermatol Online J.* 2017;8:39–41.
6. Calka O, Metin A, Ozen S. A case of disseminated and recurrent infundibulofolliculitis responsive to treatment with systemic isotretinoin. *J Dermatol.* 2002;29(7):431-4. doi: 10.1111/j.1346-8138.2002.tb00300.x.
7. Aroni K, Grapsa A, Agapitos E. Disseminate and recurrent infundibulofolliculitis: response to isotretinoin. *J Drugs Dermatol.* 2004;3(4):434-5.
8. Aroni K, Aivaliotis M, Davaris P. Disseminated and recurrent infundibular folliculitis (D.R.I.F.): report of a case successfully treated with isotretinoin. *J Dermatol.* 1998;25(1):51-3. doi: 10.1111/j.1346-8138.1998.tb02346.x.
9. Thew MA, Wood MG. Disseminate and Recurrent Infundibulo-Folliculitis: Report of a Second Case. *Arch Dermatol.* 1969;100(6):728–733. doi:10.1001/archderm.1969.01610300078013.
10. Hitch JM, Lund HZ. Disseminate and recurrent infundibulo-folliculitis. *Arch Dermatol.* 1972;105(4):580–583.doi:10.1001/archderm.1972.01620070052019.

AUTHOR CORRESPONDENCE

Dev Sahni MD MHA

E-mail:..... dev.sahni@hsc.utah.edu