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Secukinumab - A New Ray of Hope for the Management of Refractory Hidradenitis Suppurativa

Devansi Sarawgi, Gobinda Chatterjee, Olympia Rudra, Prमित Nandy, Aniruddha Mandal

West Bengal University of Health Sciences, IPGMER-SSKM Hospital, Clinic of Dermatology, Kolkata, India

ABSTRACT

Hidradenitis suppurativa (HS) is a disorder of terminal follicular epithelium with a complex and multifactorial pathogenesis. Pro-inflammatory cytokines like tumor necrosis factor alpha, interleukin (IL)-17 are found to be increased in its patient, making these molecules a potential target of therapy. Secukinumab is a human monoclonal antibody that binds to IL-17A selectively and suppresses the inflammatory process. Here, we report a case of Hurley stage 2 HS. Various treatment modalities were tried over several months but only limited response was noted. Subcutaneous secukinumab was then started and patient's response was assessed monthly, for a total of 3 months. Patient's IHS4 score decreased from 15 to 8 and her Dermatology Life Quality Index improved from 23 to 13 after 3 months of secukinumab therapy. Although, there is limited evidence of effectiveness of secukinumab in HS till date, results so far look promising and large-scale clinical trials are underway to establish its role in the management of HS.

Keywords: Hidradenitis suppurativa, Treatment, Secukinumab, Biologics

Introduction

Hidradenitis suppurativa (HS) is a cutaneous disorder involving apocrine rich areas like axillae, anogenital region etc. Apart from physical symptoms like pain and discharge, it is associated with psychological morbidities like depression, low self-confidence etc. [1]. Thus, patients anxiously seek therapy that can offer prompt relief and long-lasting effect. Unfortunately, management of HS has often proven to be a daunting task for physicians [2].

Secukinumab is a human monoclonal antibody that selectively binds to interleukin 17A (IL-17A) molecule and prevent its receptor. Currently, it is under clinical trial for the treatment of HS [3]. Here, we present a case of severe refractory HS which was successfully treated with subcutaneous secukinumab injection.

Case Report

A 35-year-old woman presented to our out patient department with multiple painful lesions and discharging ulcer on her body for last one month. Patient reported similar eruptions, predominantly in the axilla, trunk and back, in last four years with subsequent healing with scar formation. No medical or surgical co-morbidities were present. She revealed to have been treated by many local physicians over the years without much success. On examination, tender nodules, abscess with ulcers were noted on her back and axilla along with multiple double-ended pseudo-comedones and scars all over the body (Figure 1). The routine laboratory parameters revealed raised acute phase reactants like erythrocyte sedimentation rate, CRP while pus culture showed no growth. Based on history and clinical examination, she was diagnosed as a case of HS with Hurley



Address for Correspondence: Devansi Sarawgi MD, West Bengal University of Health Sciences, IPGMER-SSKM Hospital, Clinic of Dermatology, Kolkata, India

Phone: +90 +919875644004 **E-mail:** devansi.sarawgi@gmail.com **ORCID ID:** orcid.org/0000-0002-2593-0533

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stage 2 grading. Various medications like oral doxycycline, oral dapsone, topical antibiotics, oral ciclosporin, injection adalimumab, were tried alone or in combination, over a period of eight months but much to our and patient's disappointment, response was only limited and temporary. Encouraged by few reports of successful management of HS with secukinumab, patient was started on it along with topical clindamycin. Secukinumab (300 mg) was given subcutaneously weekly for first four weeks and thereafter every four weeks. International HS Severity Score (IHS4) and Dermatology Life Quality Index (DLQI) scores were recorded to assess the clinical response and psychological improvement if any, once before and then monthly after starting secukinumab. Patient reported marked symptomatic improvement within three weeks of initiation of treatment. No new lesions appeared post two months of therapy and existing lesions reduced in size. Her IHS4 score decreased from 15 to 8 (Figure 2) and her DLQI improved from 23 to 13 after three months of secukinumab treatment.

Informed consent was taken from the patient for possible case report publication.

Discussion

HS is an inflammatory disease presenting as painful nodules and abscess. Overtime pseudo-comedones, sinus tracts, fistulae are

formed and healing occurs by scarring [1]. Pathogenesis of HS is complex and multifactorial [4]. Occlusion of infundibulum with subsequent rupture of follicle is the primary event. In response, pronounced inflammation occurs and abscess develops. Immune dysregulation is a key feature [2]. At present, adalimumab is the only biological which is United States by the Food and Drug Administration approved for the treatment of HS. Though in some patients it provides substantial improvement but overall response rate is only around 60% [5]. Recent studies have reported increased IL-17 levels in HS patient. IL-17A cytokines causes neutrophils recruitment and propagation of inflammation in a positive feedback fashion. On this basis, secukinumab (IL-17A inhibitor) is being considered as a potential treatment option for HS [2].

Handful of case have been published reporting the success of secukinumab in HS [2,3,5]. In one open-label trial, 20 patients of moderate to severe HS were administered secukinumab, among which seventy percent achieved HS clinical response [predefined as at least a 50% reduction in the sum of abscesses and inflammatory nodules (AN count) and (2) no increase in draining fistula or abscess count relative to baseline] at the end of 24 weeks [6].

Although there is limited evidence of effectiveness of secukinumab in HS till date, results so far look promising and large-scale clinical trials are underway to warrant its widespread use in HS.

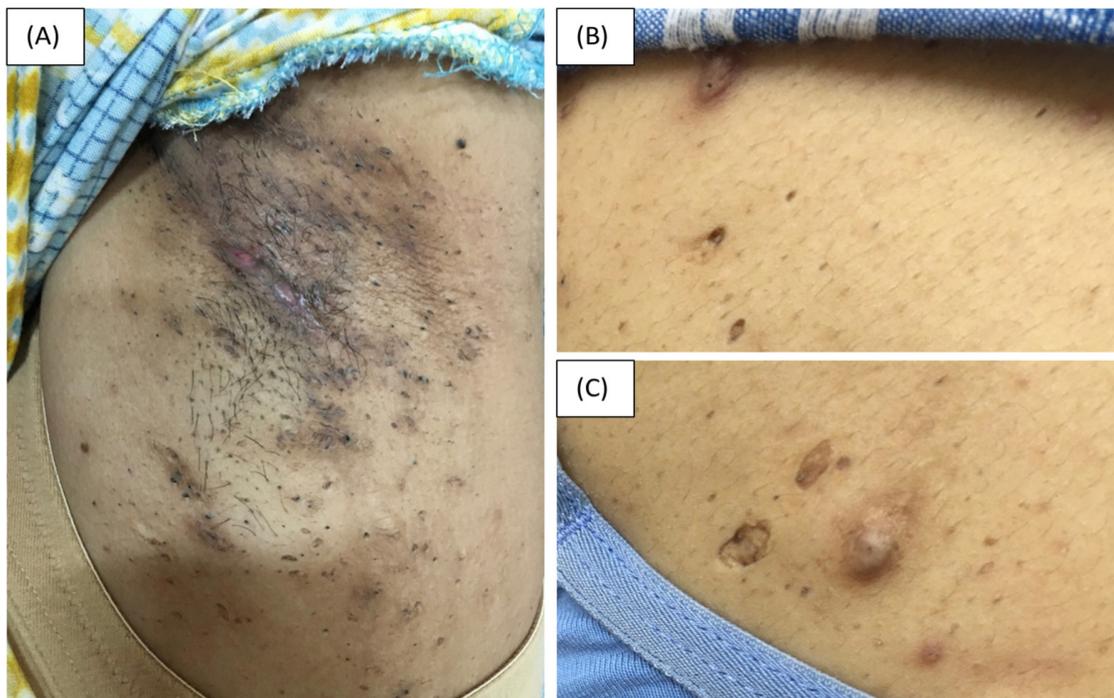


Figure 1. Before starting secukinumab therapy. Multiple ulcers and pseudo-comedomes over the right axilla (A), multiple nodules and scarring over the back (B,C)

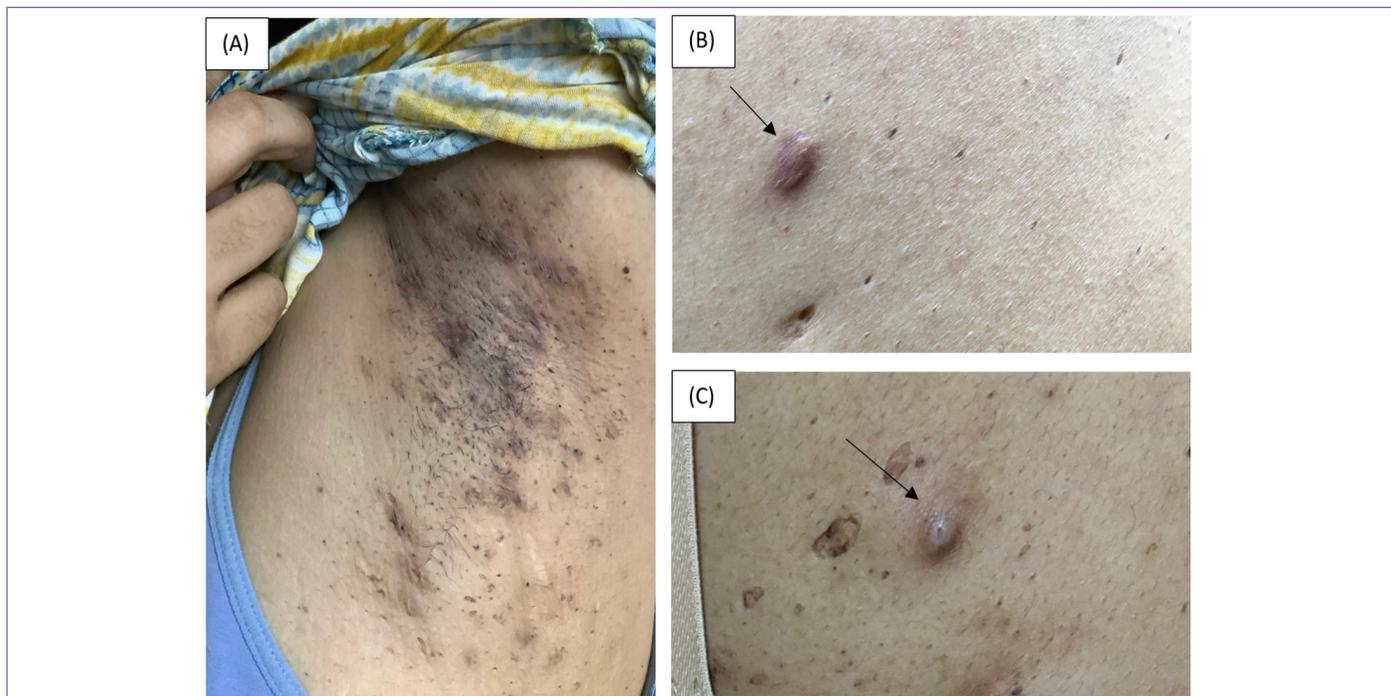


Figure 2. After 12 weeks of secukinumab therapy. Healed ulcer over the right axilla (A), flattening and reduction in size of the nodules (marked by black arrows) over the back (B,C)

Ethics

Informed Consent: Informed consent was taken from the patient for possible case report publication.

Peer-review: Internally and externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: D.S., G.C., O.R., P.N., A.M., Concept: D.S., G.C., P.N., Data Collection or Processing: D.S., G.C., O.R., A.M., Analysis or Interpretation: D.S., G.C., O.R., P.N., A.M., Literature Search: D.S., O.R., P.N., A.M., Writing: D.S., O.R., A.M.

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