

## Novel usage of superficial liposuction in hidradenitis suppurativa

### Hidradenitis suppurativa'da yüzeysel liposuctionun yeni kullanımı

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#### Abstract

Hidradenitis suppurativa otherwise known as acne inversa is a common skin disease that presents as recurrent painful nodules, which form in characteristic sites of the body and often progress to chronic purulent discharge, scarring, and sinus formation. Currently there is no gold standard treatment to combat this recurring disease. Here we describe a novel usage of superficial liposuction in treatment of hidradenitis suppurativa.

**Keywords:** Superficial liposuction, Subdermal liposuction, Hidradenitis suppurativa, Acne inversa

#### Öz

Akne inversa olarak bilinen hidradenitis suppurativa, vücudun karakteristik bölgelerinde oluşan ve sıklıkla kronik pürülan akıntı, skarlaşma ve sinus oluşumuna kadar ilerleyen ağrılı nodüller olarak ortaya çıkan yaygın bir deri hastalığıdır. Şu anda bu yinelenen hastalıklarla mücadele etmek için altın standart tedavi yoktur. Burada hidradenitis suppurativa tedavisinde yeni bir yüzeysel liposuction kullanımı tarif ediyoruz.

**Anahtar kelimeler:** Yüzeysel liposuction, Subdermal liposuction, Hidradenitis suppurativa, Akne inversa

#### Introduction

Hidradenitis suppurativa (HS) is related with the apocrine sweat glands and is sometimes referred to as acne inversa or apocrine acne. In HS, it is believed that the apocrine ducts become blocked. The secretions and bacteria entrapped within and then abscess developed. These inflamed boil-like nodules either slowly disappear or erupt as painful suppurative abscesses [1-3].

Although healing follows, the affected skin is left with deep scarring. There are periods of remission, as the disease progresses, the condition becomes chronic. More diffuse multiple abscesses occur with the formation of a network of sinus tracks accompanied by pockets of induration. Hurley in 1989 first described staging of HS based on severity (Table 1). This classification had been evolved to be more acceptable and widely used from time to time. This classification is important to determine the course of treatment planned for the patient either medically or surgically [4].

Liposuction was first introduced by Fisher in 1976, it underwent several modification in the technique and the instruments used. Back then liposuction was used exclusively in the deep layer of subcutaneous tissue and not to suck superficial fat layer to avoid skin irregularities [5,6]. With better anatomical understanding of superficial fascia system, Gasperoni [7] described superficial liposuction technique. He further described subcutaneous layer which is divided into 2 by superficial fascia: superficial fat-areolar and deep fat layer-lamella (Figure 1). With superficial liposuction it is possible to reach sweat glands located at hypodermis and to break deep seated abscess in subcutaneous layer in HS.

Table 1: Severity based classification of Hidradenitis suppurativa

Stage	Characteristics
I	Abscess formation, single, or multiple, without sinus tracts and cicatrisation.
II	Recurrent abscesses with tract formation and cicatrisation, single or multiple, widely separated lesions
III	Diffuse or near-diffuse involvement, or multiple interconnected tracts and abscesses across the entire area.

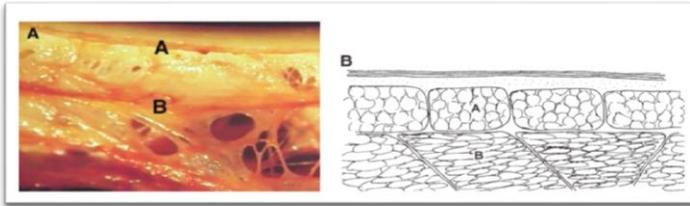


Figure 1: A: cross section of subcutaneous tissue A.A: skin, A.B: superficial fascia. B: schematic diagram of subcutaneous tissue B.A: superficial areolar fat layer densely contained in fibrous septa, B.B: deep lamellar fat layer loosely arranged. Adapted from [6]

## Case presentation

### Case 1

A 37 years old lady with underlying diabetes mellitus presented with small multiple pustule lesions at bilateral axilla for 6 years. The lesions were increasing in size with intermittent flare up manifested by fever, skin erythema and foul pus discharge. Initially she was treated with multiple courses of antibiotics which partially resolved her flare symptoms (Figure 2). This illness had caused her to take frequent work leave due to her symptoms, pain and social embarrassment.



Figure 2: A: preoperative left axilla, B: immediate post liposuction, C: four months post superficial liposuction

She underwent superficial liposuction (subdermal liposuction) over bilateral axillae under general anesthesia. The procedure was uneventful. She was well and discharged two days after the surgery. Six months after surgery, on her clinic follow up. She has only complaint of slight discomfort probably due to skin tightness at her bilateral axillae. Otherwise there were no signs of inflammation, no hematoma, no discharge. She has not noticed any recurring symptoms after 1 year.

### Case 2

A 46 years old policeman, ex-smoker presented with history of recurrent right gluteal abscess, scarred and puckered skin with intermittent flare up symptom with fever and secondary bacterial infection requiring hospital admission and IV antibiotics. Magnetic Resonance imaging showed right gluteal abscess with multiple tract. Colonoscopy was performed to rule out anorectal fistula. Subsequently this patient was referred to our center for further management. Tissue from right gluteal region was obtained for histopathological examination: No malignancy, feature of HS.

We proceeded with superficial liposuction on the right gluteal region under spinal anesthesia. Six months post operation patient was highly satisfied with marked improvement of his symptom especially on lateral gluteal area. He still has occasional discharge located at medial gluteal fold but he never

required hospitalization again for secondary bacterial infection. He was offered another session of superficial liposuction however patient not keen for another operative procedure.

## Discussion

FHS disease is a burdensome to healthcare economy, prevalence of HS is as high as 1–4% in population [1] and most patients are young to middle-aged adults where women are more affected than men [8]. Currently there is no one gold standard treatment to combat HS [2].

In 1989, Gasperoni [7] discovered a new path of liposuction when he presented superficial liposuction, which is the suction of superficial fat layer (subdermal). This technique permits treatment at the thin adipose layer so that better result can be achieved than traditional liposuction. Knowing that sweat gland is located at hypodermis area, we used superficial liposuction to destroy these glands and the chronic sinuses formed in hypodermis area.

Superficial liposuction is not just a simple and safe procedure, postoperative care is swift and patient does not require prolong hospital stay. Both our patients could be safely discharge on day 2 post liposuction. Patient in case one showed no signs of relapsed on her 1 year following surgery. She had tightness over her bilateral axilla, this is a known effect of superficial liposuction where skin retraction occurred by defatting immediately under the skin.

In our second case, the patient has never turned back. In my opinion he had near total recovery which hinders him from coming back to received further treatment. To my best knowledge this is the first report of liposuction usage for HS treatment. More series needed to ascertain the efficacy of this treatment. This may add additional armamentarium for plastic surgeon to combat a chronic recurrent HS.

Superficial liposuction is a simple and safe treatment for HS. However, more study is needed to verify the effectiveness of liposuction in treatment.

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