Two Cases of Hidradenitis Suppurativa Treated with Adalimumab at the Department of Dermatology and Venereology, Clinical Hospital Mostar

Hidradenitis suppurativa (HS) is a chronic inflammatory skin disease primarily affecting apocrine gland-rich areas of the body and presenting with painful nodules, abscesses, sinus tracts, and scarring (1). HS is a defect of the follicular epithelium; some have therefore called for the naming the disease acne inversa instead of hidradenitis suppurativa. The term acne inversa links the pathogenesis to acne and reflects the fact that it is an expression of follicular occlusion in localizations inverse to acne vulgaris (2).

HS typically occurs after puberty. Studies have shown that the average onset is in the second or third decades of life (3). One of the most frequently cited risk factors for HS is cigarette smoking. Another significant risk factor for HS is obesity. About one-third of patients with HS have reported a family history of the disease (4).

A clinically relevant staging and disease severity assessment is essential for the development of evidence-based treatments. There are several scoring systems for the assessment of disease severity of HS, including Hurley staging, HS Physician's Global Assessment (PGA), the modified Sartorius score (MSS), and the HS Severity Index (HSSI). Each of these assessments has both advantages and limitations in daily practice; there is currently no gold standard (5-8). The Hurley staging system is the simplest and most widely used instrument for HS classification in routine clinical practice. It classifies HS into three stages. HS-PGA is relatively easy to apply and is frequently used to measure clinical improvement in clinical trials of medical treatments (5). The system describes six disease stages, increasing in severity on a scale from 1 to 6 (9). MSS is a more detailed and dynamic classification system based on the counting of individual nodules and fistulas within seven anatomical regions. The system, which was developed by Sartorius *et al.* and later modified, is the first disease-specific instrument for dynamically measuring clinical severity of HS (10).

The treatment of HS includes topical clindamycin, triamcinolone acetonide, clobetasol, topical resorcinol, oral antibiotics, hormonal therapy, oral retinoids, and biologic therapies (11). Biologic therapies are increasingly used in patients who fail to sufficiently respond to antibiotic and hormonal treatments. Adalimumab, infliximab, and etanercept have all been tested in the treatment of HS but vary in effectiveness and in how well they have been studied. Subcutaneous weekly adalimumab (160 mg at week 0, 80 mg

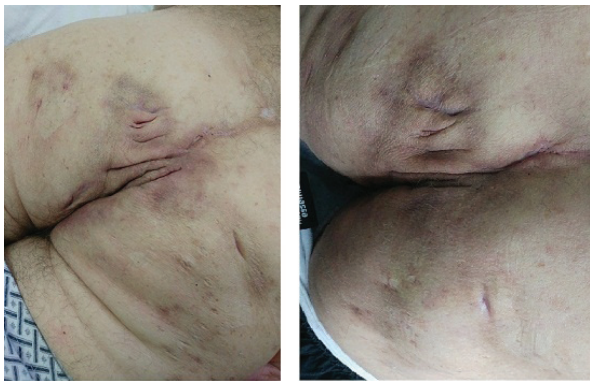

Figure 1. Multiple fistulas and nodules in the perianal, gluteal and intergluteal regions.

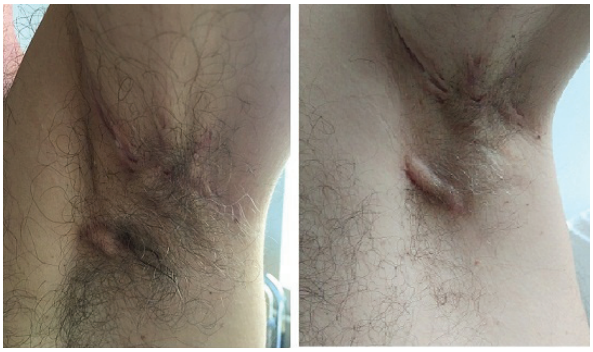

Figure 2. Multiple abscesses, fistulas, and nodules in the left axillary region.

at week 2, and 40 mg each week thereafter) is the only biologic agent approved by the US Food and Drug Administration (FDA) and the European Medicine Agency (EMA) for the treatment of HS, and it is recommended as first-line therapy for patients with moderate-to-severe disease who are intolerant or unresponsive to oral antibiotics (12).

The first male patient aged 59 years was referred to our Department with very long history of HS. The first symptoms had been unrecognized and presented as a pilonidal cyst 25 years ago as well as cysts on the intergluteal region treated with multiple surgical interventions and systemic antibiotics. The first hospitalization at our Department was in 2016. In addition to HS, the patient had diabetes mellitus (DM) type II and hypertension. A physical examination showed multiple abscesses, fistulas, and nodules in the axillary, inguinal, perianal, gluteal, and intergluteal regions; Hurley staging: stage II, PGA staging: IV, DLQI: 24 (Figure 1, Figure 2). Microbiological repeated swabs showed numerous bacteria such as *Esch.coli*, *S.aureus*, *Serratia.spp*, *Enterococcus spp*, *St.epidermidis*, and *Proteus mirabilis*. Laboratory tests which included complete blood cell count, biochemistry, serology for syphilis, HIV, and hepatitis B and C infection together with chest X-rays were all within normal limits. Abdominal ultrasound examination found no abnormalities. Quantiferon test was positive. After the monotherapy with isoniazid, a repeated Quantiferon test two months later was negative. The patient was treated with betadine solution and pus drainage until 2018, when at the Department of Dermatology and Venerology prescribed adalimumab in doses of 80 mg initially, 40 mg ×2 on the first day and the day after that, then 80 mg after fifteen days followed by 40 mg every ten days. After 16 weeks of treatment with adalimumab, Hurley staging was II, PGA IV, DLQI 3.

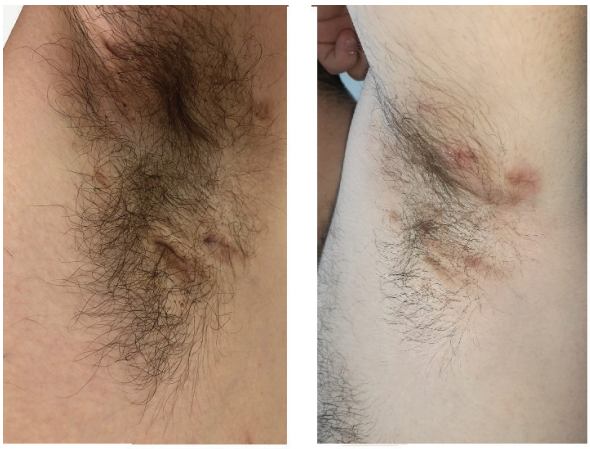

Figure 3. Multiple abscesses, fistulas, and nodules in the left axillary region. Residual changes visible after 16 weeks of treatment with adalimumab.

The second male patient aged 28 years was referred to our Department with a shorter history: the first symptoms were presented as pilonidal sinus in 2012, after that in 2015 as inflamed nodules and fistulas in the axillary and inguinal regions. In 2018, physical examination showed the same nodules with a more intense character as well as furuncles on the scalp and skin of the back, with Hurley staging stage II, PGA staging III, DLQI 14 (Figure 3, Figure 4). Until the disease was diagnosed, the patient was treated several times with peroral antibiotics, while laboratory tests which included complete blood cell count, biochemistry, serology for syphilis, HIV, and hepatitis B and C infection together with chest X-rays were all within normal limits with the exception of elevated cholesterol (6.1). Abdominal ultrasound examination found no abnormalities. Quantiferon test was negative. The following therapy was administered during hospitalization: Humira (adalimumab) initial dose 160 mg, a dose of 80 mg after 14 days, and after 7 days 40 mg, in addition to local therapy with 10% resorcinol solution at the location of the skin changes. After 16 weeks of treatment with adalimumab, Hurley staging was II, PGA staging was III, and DLQI index was 3.

Hidradenitis suppurativa is a chronic, recurrent inflammatory and debilitating skin disease of the terminal hair follicle that usually presents after puberty with painful, deep seated, inflamed lesions in the apocrine gland-bearing areas of the body, most commonly the axillary, inguinal, and anogenital region (3).

Biological therapies have been increasingly used for patients who failed to sufficiently respond to antibiotics and hormonal treatments. Adalimumab, infliximab, and etanercept have all been tested in the treatment of hidradenitis suppurativa but vary in effectiveness and in how well they have been studied. Subcutaneous weekly adalimumab (160 mg at week,

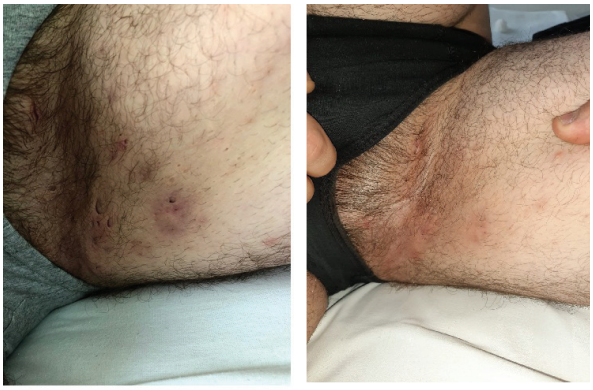

Figure 4. Inflamed abscesses, nodules, and fistulas in the left inguinal regions. Residual changes visible after 16 weeks of treatment with adalimumab.

80 mg at week 2, and 40 mg each week thereafter) is the only biologic agent approved by the US Food and Drug Administration (FDA) and the European Medicine Agency (EMA) for the treatment of HS and is recommended as first-line therapy for patients who moderate-to-severe disease and who are intolerant or unresponsive to oral antibiotics (5,12).

Treatment of hidradenitis suppurativa remains a considerable challenge and should be individualized according to the state and extent of the disease. Therapeutic options for hidradenitis suppurativa were long restricted to the use of local disinfectants and systemic antibiotics as well as repeated incisions and drainage, which produce only short-term benefits. Our patients showed regression of lesions after sixteen weeks of biological therapy.

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