

## **SUPPORTING INFORMATION**

### **The Comorbidity Burden of Hidradenitis Suppurativa in the United States: a Claims Data Analysis**

**Supplementary Table 1: HS-related comorbidities**

HS-related comorbid conditions	Matched patients and controls				Comparisons		
	HS-mild [A] N = 2,292	HS-free [B] N = 2,292	HS-severe [C] N = 3,065	HS-free [D] N = 3,065	P-value [A] vs. [B]	P-value [C] vs. [D]	P-value [A] vs. [C]
<b>Any HS-related comorbid condition, N (%)</b>	<b>1,790 (78.1)</b>	<b>1,064 (46.4)</b>	<b>2,653 (86.6)</b>	<b>1,473 (48.1)</b>	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>
<b>Follicular Occlusion Conditions, N (%)</b>	<b>628 (27.4)</b>	<b>147 (6.4)</b>	<b>1,374 (44.8)</b>	<b>166 (5.4)</b>	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>
Acne conglobata and other acne	262 (11.4)	87 (3.8)	398 (13.0)	103 (3.4)	<0.0001*	<0.0001*	0.0868
Sebaceous cyst	248 (10.8)	52 (2.3)	903 (29.5)	56 (1.8)	<0.0001*	<0.0001*	<0.0001*
Dissecting cellulitis of the scalp	218 (9.5)	17 (0.7)	277 (9.0)	20 (0.7)	<0.0001*	<0.0001*	0.5535
Pilonidal cyst	19 (0.8)	2 (0.1)	106 (3.5)	4 (0.1)	0.0002*	<0.0001*	<0.0001*
<b>Inflammatory Conditions, N (%)</b>	<b>261 (11.4)</b>	<b>139 (6.1)</b>	<b>457 (14.9)</b>	<b>193 (6.3)</b>	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>
Rheumatoid arthritis/collagen vascular diseases	89 (3.9)	46 (2.0)	166 (5.4)	54 (1.8)	<0.0001*	<0.0001*	0.0091
Synovitis <sup>1</sup>	71 (3.1)	36 (1.6)	100 (3.3)	59 (1.9)	0.0007	0.0008	0.7341
Psoriasis	47 (2.1)	14 (0.6)	67 (2.2)	26 (0.8)	<0.0001*	<0.0001*	0.7341
Irritable bowel syndrome	41 (1.8)	35 (1.5)	68 (2.2)	44 (1.4)	0.4855	0.0221	0.2703
Crohn disease	18 (0.8)	6 (0.3)	43 (1.4)	9 (0.3)	0.0143	<0.0001*	0.0350
Pyoderma	12 (0.5)	2 (0.1)	38 (1.2)	3 (0.1)	0.0075	<0.0001*	0.0070
Ulcerative colitis	10 (0.4)	8 (0.3)	29 (0.9)	13 (0.4)	0.6171	0.0136	0.0299
Sicca syndrome (incl. Sjogren disease)	6 (0.3)	1 (0.0)	6 (0.2)	6 (0.2)	0.0588	1.0000	0.6131
Psoriatic arthritis	5 (0.2)	3 (0.1)	11 (0.4)	3 (0.1)	0.4795	0.0325	0.3503
Arthropathies	2 (0.1)	1 (0.0)	10 (0.3)	2 (0.1)	0.5637	0.0209	0.0671
Pityriasis rubra pilaris	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	-	-	-
<b>Endocrine/Metabolic and Hormone-related Conditions, N (%)</b>	<b>1,235 (53.9)</b>	<b>746 (32.5)</b>	<b>1,801 (58.8)</b>	<b>1,001 (32.7)</b>	<b>&lt;0.0001*</b>	<b>&lt;0.0001*</b>	<b>0.0004</b>
Dyslipidemia	661 (28.8)	395 (17.2)	942 (30.7)	573 (18.7)	<0.0001*	<0.0001*	0.1341
Hypertension	644 (28.1)	397 (17.3)	1,025 (33.4)	533 (17.4)	<0.0001*	<0.0001*	<0.0001*
Diabetes	299 (13.0)	140 (6.1)	590 (19.2)	184 (6.0)	<0.0001*	<0.0001*	<0.0001*
Thyroid disease	275 (12.0)	197 (8.6)	368 (12.0)	240 (7.8)	<0.0001*	<0.0001*	0.9926
Obesity	247 (10.8)	68 (3.0)	346 (11.3)	81 (2.6)	<0.0001*	<0.0001*	0.5545
PCOS	33 (1.4)	8 (0.3)	60 (2.0)	19 (0.6)	<0.0001*	<0.0001*	0.1511
Other selected conditions <sup>2</sup>	14 (0.6)	2 (0.1)	19 (0.6)	3 (0.1)	0.0027	0.0006	0.9665
<b>Malignant neoplasms, N (%)</b>	<b>140 (6.1)</b>	<b>93 (4.1)</b>	<b>196 (6.4)</b>	<b>116 (3.8)</b>	<b>0.0009</b>	<b>&lt;0.0001*</b>	<b>0.6686</b>
Malignant neoplasm of skin	44 (1.9)	31 (1.4)	54 (1.8)	50 (1.6)	0.1281	0.6892	0.6696
Malignant neoplasm other than skin	94 (4.1)	61 (2.7)	141 (4.6)	65 (2.1)	0.0077	<0.0001*	0.3775
<b>Other Conditions, N (%)</b>							
Depression	275 (12.0)	168 (7.3)	442 (14.4)	221 (7.2)	<0.0001*	<0.0001*	0.0100
Anxiety disorders	195 (8.5)	116 (5.1)	283 (9.2)	182 (5.9)	<0.0001*	<0.0001*	0.3568
Deficiency anemias	183 (8.0)	104 (4.5)	339 (11.1)	136 (4.4)	<0.0001*	<0.0001*	<0.0001*
Asthma	179 (7.8)	103 (4.5)	301 (9.8)	146 (4.8)	<0.0001*	<0.0001*	0.0108
Herpes simplex	51 (2.2)	14 (0.6)	80 (2.6)	30 (1.0)	<0.0001*	<0.0001*	0.3667
Kidney disease	34 (1.5)	22 (1.0)	96 (3.1)	16 (0.5)	0.1025	<0.0001*	<0.0001*
Down syndrome	13 (0.6)	0 (0.0)	5 (0.2)	0 (0.0)	-	-	0.0115
Ichthyosis congenita/Keratitichthyosis-deafness (KID) syndrome	2 (0.1)	0 (0.0)	0 (0.0)	1 (0.0)	-	-	0.1019

HS: Hidradenitis suppurativa

Notes:

[1] The ICD-9 code for synovitis (727.0) includes synovitis and tenosynovitis.

[2] Other selected conditions included acanthosis nigricans, acromegaly, and Cushing disease

\* Significant at the 5% level after Bonferroni correction

**Supplementary Table 2: Other physical and mental comorbidities**

	Matched patients and controls				Comparisons		
	HS-mild [A]	HS-free [B]	HS-severe [C]	HS-free [D]	P-value	P-value	P-value
<b>Other physical and mental comorbid conditions, N (%)</b>	<b>N = 2,292</b>	<b>N = 2,292</b>	<b>N = 3,065</b>	<b>N = 3,065</b>	<b>[A] vs. [B]</b>	<b>[C] vs. [D]</b>	<b>[A] vs. [C]</b>
Chronic pulmonary disease	311 (13.6)	172 (7.5)	522 (17.0)	221 (7.2)	<0.0001*	<0.0001*	0.0005
Sleep-wake disorders	198 (8.6)	78 (3.4)	340 (11.1)	140 (4.6)	<0.0001*	<0.0001*	0.0031
Psychoses	163 (7.1)	101 (4.4)	292 (9.5)	140 (4.6)	<0.0001*	<0.0001*	0.0017
Substance-related and addictive disorders	146 (6.4)	43 (1.9)	332 (10.8)	60 (2.0)	<0.0001*	<0.0001*	<0.0001*
Trauma- and stressor-related disorders	113 (4.9)	70 (3.1)	166 (5.4)	104 (3.4)	0.0013	<0.0001*	0.4285
Fluid and electrolyte disorders	90 (3.9)	49 (2.1)	155 (5.1)	67 (2.2)	0.0004	<0.0001*	0.0501
Valvular disease	87 (3.8)	44 (1.9)	127 (4.1)	53 (1.7)	<0.0001*	<0.0001*	0.5202
Other neurological disorders	66 (2.9)	48 (2.1)	114 (3.7)	53 (1.7)	0.0776	<0.0001*	0.0915
Peripheral vascular disorder	60 (2.6)	44 (1.9)	114 (3.7)	36 (1.2)	0.0917	<0.0001*	0.0244
Neurodevelopmental disorders	44 (1.9)	22 (1.0)	52 (1.7)	39 (1.3)	0.0052	0.1536	0.5424
Bipolar and related disorders	42 (1.8)	20 (0.9)	73 (2.4)	29 (0.9)	0.0045	<0.0001*	0.1699
Liver disease	34 (1.5)	19 (0.8)	78 (2.5)	23 (0.8)	0.0394	<0.0001*	0.0072
Weight loss	35 (1.5)	18 (0.8)	57 (1.9)	23 (0.8)	0.0195	<0.0001*	0.3538
Alcohol abuse	25 (1.1)	13 (0.6)	34 (1.1)	13 (0.4)	0.0516	0.0022	0.9487
Congestive heart failure	23 (1.0)	22 (1.0)	89 (2.9)	15 (0.5)	0.8815	<0.0001*	<0.0001*
Medication-induced movement disorders and other adverse effects of medication	22 (1.0)	12 (0.5)	24 (0.8)	18 (0.6)	0.0863	0.3545	0.4877
Elimination disorders	21 (0.9)	12 (0.5)	32 (1.0)	6 (0.2)	0.1172	<0.0001*	0.6400
Drug abuse	21 (0.9)	8 (0.3)	48 (1.6)	12 (0.4)	0.0158	<0.0001*	0.0369
Coagulation deficiency	20 (0.9)	13 (0.6)	42 (1.4)	19 (0.6)	0.2230	0.0028	0.0920
Blood loss anemia	18 (0.8)	14 (0.6)	33 (1.1)	12 (0.4)	0.4652	0.0017	0.2773
Pulmonary circulation disorder	16 (0.7)	13 (0.6)	35 (1.1)	5 (0.2)	0.5775	<0.0001*	0.0979
Neurocognitive disorders	15 (0.7)	9 (0.4)	41 (1.3)	17 (0.6)	0.2207	0.0016	0.0150
Schizophrenia spectrum and other psychotic disorders	15 (0.7)	6 (0.3)	21 (0.7)	13 (0.4)	0.0495	0.1701	0.8917
Obsessive-compulsive and related disorders	11 (0.5)	11 (0.5)	23 (0.8)	10 (0.3)	1.0000	0.0196	0.2174
Feeding and eating disorders	9 (0.4)	1 (0.0)	12 (0.4)	10 (0.3)	0.0114	0.6698	0.9947
Other mental disorders	7 (0.3)	6 (0.3)	10 (0.3)	10 (0.3)	0.7815	1.0000	0.8932
Paralysis	6 (0.3)	5 (0.2)	22 (0.7)	7 (0.2)	0.7630	0.0053	0.0220
HIV and AIDS	5 (0.2)	2 (0.1)	17 (0.6)	0 (0.0)	0.2568	-	0.0567
Sexual dysfunctions	5 (0.2)	6 (0.3)	15 (0.5)	11 (0.4)	0.7630	0.4328	0.1073
Somatic symptom and related disorders	3 (0.1)	2 (0.1)	6 (0.2)	2 (0.1)	0.6547	0.1573	0.5662
Personality disorders	2 (0.1)	4 (0.2)	9 (0.3)	10 (0.3)	0.4142	0.8185	0.0987
Dissociative disorders	2 (0.1)	0 (0.0)	2 (0.1)	1 (0.0)	-	0.5637	0.7705
Paraphilic disorders	1 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	-	-	0.2475
Disruptive, impulse-control, and conduct disorders	0 (0.0)	4 (0.2)	5 (0.2)	2 (0.1)	-	0.2568	0.0530
Chronic peptic ulcer disease	0 (0.0)	0 (0.0)	1 (0.0)	1 (0.0)	-	1.0000	0.3871
Gender dysphoria	0 (0.0)	0 (0.0)	1 (0.0)	0 (0.0)	-	-	0.3871

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