Supplementary Online Content

Jung JM, Lee KH, Kim Y-J, et al. Assessment of overall and specific cancer risks in patients with hidradenitis suppurativa. *JAMA Dermatol*. Published online May 27, 2020. doi:10.1001/jamadermatol.2020.1422

eTable 1. International Statistical Classification of Disease, 10th Revision Codes for Specific Cancers

eTable 2. Risks of Overall and Specific Cancers in Patients With Hidradenitis Suppurativa Compared With a Matched Comparator Cohort

eFigure. Flow Chart of the Study

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. International Statistical Classification of Disease, 10th Revision codes for specific cancers

Cancer	Code
Leukemia	C91–95
Lymphoma	C81–86
Hodgkin lymphoma	C81
Non-Hodgkin lymphoma	C82–86
Multiple myeloma	C90
Malignant melanoma of skin	C43
Non melanoma skin cancer	C44
Bone and articular cartilage cancer	C40-41
Kaposi's sarcoma	C46
Thyroid cancer	C73
Adrenal cancer	C74
Oral cavity and pharyngeal cancer	C01–14
Laryngeal cancer	C32
Esophageal cancer	C15
Gastric cancer	C16
Small intestine cancer	C17
Colorectal cancer	C18–21
Liver cancer	C22
Pancreatic cancer	C25
Biliary cancer	C23, C24
Lung cancer	C33, C34
Renal cancer	C64
Bladder cancer	C67
Cancer of central nervous system cancer	C70-72
Breast cancer	C50
Uterine cervical cancer	C53
Uterine corpus cancer	C54, C55
Ovarian cancer	C56
Prostate cancer	C61
Testicular cancer	C62

eTable 2. Risks of overall and specific cancers in patients with hidradenitis suppurativa compared with a matched comparator cohort

Cancer subtype	Matched comparator cohort (1:8) (n = 179,734)			Patients with hidradenitis suppurativa (n = 22,468)			Multivariable analysis	
	Event, n	person- years	Incidence rate (per 100,000 person- years) (95% CI)	Event,	person- years	Incidence rate (per 100,000 person- years) (95% CI)	Adjusted HR ^a (95% CI)	P value
Overall cancer	2,477	853330.14	290.27 (278.95– 301.94)	379	105992.03	357.57 (322.48– 395.45)	1.28 (1.15– 1.42)	< .001b
Oral cavity and pharyngeal cancer	33	853330.14	3.87 (2.66–5.43)	12	105992.03	11.32 (5.85–19.78)	3.10 (1.60– 6.02)	.001b
Esophageal cancer	17	853330.14	1.99 (1.16–3.19)	3	105992.03	2.83 (0.58–8.27)	1.51 (0.44– 5.18)	.510
Gastric cancer	377	853330.14	44.18 (39.83–48.87)	45	105992.03	42.46 (30.97–56.81)	1.02 (0.75– 1.39)	.903
Small intestine cancer	9	853330.14	1.05 (0.48–2.00)	2	105992.03	1.89 (0.23–6.82)	1.80 (0.39– 8.37)	.453
Colorectal cancer	321	853330.14	37.62 (33.61–41.97)	55	105992.03	51.89 (39.09–67.54)	1.45 (1.09– 1.93)	.012b
Liver cancer	188	853330.14	22.03 (18.99–25.42)	24	105992.03	22.64 (14.51–33.69)	1.10 (0.72– 1.68)	.668
Biliary cancer	59	853330.14	6.91 (5.26–8.92)	9	105992.03	8.49 (3.88–16.12)	1.30 (0.64– 2.62)	.473
Pancreatic cancer	65	853330.14	7.62 (5.88–9.71)	9	105992.03	8.49 (3.88–16.12)	1.15 (0.57– 2.32)	.688
Laryngeal cancer	15	853330.14	1.76 (0.98–2.90)	1	105992.03	0.94 (0.02–5.26)	0.59 (0.08– 4.49)	.611
Lung cancer	251	853330.14	29.41 (25.89–33.29)	37	105992.03	34.91 (24.58–48.12)	1.25 (0.89– 1.77)	.201

Cancer subtype	Matched comparator cohort (1:8) (n = 179,734)			Patients with hidradenitis suppurativa (n = 22,468)			Multivariable analysis	
	Event,	person- years	Incidence rate (per 100,000 person- years) (95% CI)	Event, n	person- years	Incidence rate (per 100,000 person- years) (95% CI)	Adjusted HR ^a (95% CI)	P value
Bone and articular cartilage cancer	10	853330.14	1.17 (0.56–2.16)	1	105992.03	0.94 (0.02–5.26)	0.74 (0.10– 5.83)	.778
Malignant melanoma of skin	6	853330.14	0.70 (0.26–1.53)	1	105992.03	0.94 (0.02–5.26)	1.44 (0.17– 12.08)	.738
Non-melanoma skin cancer	52	853330.14	6.09 (4.55–7.99)	13	105992.03	12.27 (6.53–20.97)	2.06 (1.12– 3.79)	.020b
Kaposi's sarcoma	0	853330.14	0.00	0	105992.03	0.00		
Breast cancer	181	328844.11	55.04 (47.31–63.67)	27	40851.81	66.09 (43.56–96.16)	1.22 (0.81– 1.82)	.344
Uterine cervical cancer	42	328844.11	12.77 (9.20–17.26)	2	40851.81	4.90 (0.59–17.69)	0.38 (0.09– 1.58)	.184
Uterine corpus cancer	19	328844.11	5.78 (3.48–9.02)	2	40851.81	4.90 (0.59–17.69)	0.85 (0.20– 3.66)	.829
Ovarian cancer	24	328844.11	7.30 (4.68–10.86)	3	40851.81	7.34 (1.51–21.46)	1.07 (0.32– 3.55)	.914
Prostate cancer	97	524486.02	18.49 (15.00–22.56)	23	65140.22	35.31 (22.38–52.98)	2.05 (1.30– 3.24)	.002b
Testicular cancer	8	524486.02	1.53 (0.66–3.01)	1	65140.22	1.54 (0.04–8.55)	1.03 (0.13– 8.20)	.981
Renal cancer	58	853330.14	6.80 (5.16–8.79)	10	105992.03	9.43 (4.52–17.35)	1.40 (0.71– 2.74)	.332
Bladder cancer	59	853330.14	6.91 (5.26–8.92)	4	105992.03	3.77 (1.03–9.66)	0.57 (0.21– 1.36)	.275

Cancer subtype	Matched comparator cohort (1:8) (n = 179,734)			Patients with hidradenitis suppurativa (n = 22,468)			Multivariable analysis	
	Event,	person- years	Incidence rate (per 100,000 person- years) (95% CI)	Event,	person- years	Incidence rate (per 100,000 person- years) (95% CI)	Adjusted HR ^a (95% CI)	P value
Cancer of central nervous system cancer	38	853330.14	4.45 (3.15–6.11)	11	105992.03	10.38 (5.18–18.57)	2.40 (1.22– 4.70)	.011b
Thyroid cancer	373	853330.14	43.71 (39.39–48.38)	55	105992.03	51.89 (39.09–67.54)	1.18 (0.89– 1.57)	.244
Adrenal cancer	4	853330.14	0.47 (0.13–1.20)	1	105992.03	0.94 (0.02–5.26)	2.08 (0.23– 18.91)	.516
Lymphoma	52	853330.14	6.09 (4.55–7.99)	11	105992.03	10.38 (5.18–18.57)	1.68 (0.87– 3.22)	.121
Hodgkin lymphoma	5	853330.14	0.59 (0.19–1.37)	3	105992.03	2.83 (0.58–8.27)	5.08 (1.21– 21.36)	.027b
Non–Hodgkin lymphoma	47	853330.14	5.51 (4.05–7.32)	8	105992.03	7.55 (3.26–14.87)	1.34 (0.63– 2.83)	.451
Multiple myeloma	10	853330.14	1.17 (0.56–2.16)	2	105992.03	1.89 (0.23–6.82)	1.65 (0.36– 7.60)	.518
Leukemia	39	853330.14	4.57 (3.25–6.25)	7	105992.03	6.60 (2.66–13.61)	1.52 (0.68– 3.39)	.312

Abbreviations: CI, confidence interval; HR, hazard ratio

^aAdjusted by the presence of hypertension and dyslipidemia

bStatistically significant

eFigure 1. Flow chart of the study

HS, hidradenitis suppurativa

