



Supplementary Material

Article Title: Association of Alopecia Areata and the Risk of Dementia: A Nationwide Cohort Study

Author(s): Cheng-Yuan Li, MD, MSc; Ying-Hsuan Tai, MD, MSc; Ying-Xiu Dai, MD; Yun-Ting Chang, MD, PhD; Ya-Mei Bai, MD, PhD; Shih-Jen Tsai, MD; Tzeng-Ji Chen, MD, PhD; and Mu-Hong Chen, MD, PhD

DOI Number: <https://doi.org/10.4088/JCP.21m13931>

List of Supplementary Material for the article

1. [Table 1](#) Demographic data of subjects with and without dementia
2. [Table 2](#) Cox proportional-hazards regression analyses of dementia risk for alopecia areata and other patient characteristics
3. [Figure 1](#) Flowchart of the study

Disclaimer

This Supplementary Material has been provided by the author(s) as an enhancement to the published article. It has been approved by peer review; however, it has undergone neither editing nor formatting by in-house editorial staff. The material is presented in the manner supplied by the author.

Supplementary Table 1. Demographic data of subjects with and without dementia

	Dementia cases n = 115		Non-dementia cases n = 27,759		p value
AA, n (%)	32	27.8	2502	9.0	<.001
Age at diagnosis of AA (years), mean (SD)	69.9	9.4	53.8	7.4	<.001
Sex, n (%)					0.082
Male	58	50.4	11767	42.4	
Female	57	49.6	15992	57.6	
Monthly premium (USD), n (%)					<.001
0-500	82	71.3	8168	29.4	
501-800	24	20.9	9799	35.3	
≥ 801	9	7.8	9792	35.3	
Residence, n (%)					0.374
1 (urbanized)	15	13.0	4209	15.2	
2	36	31.3	7092	25.6	
3	5	4.4	2129	7.7	
4	7	6.1	2303	8.3	
5 (rural)	52	45.2	12026	43.3	
Comorbidities, n (%)					
Cerebrovascular diseases	60	52.2	2129	7.7	<.001
Traumatic head injury	3	2.6	448	1.6	0.399
Hypertension	88	76.5	8910	32.1	<.001
Dyslipidemia	47	40.9	7609	27.4	0.001
Diabetes mellitus	39	33.9	4240	15.3	<.001
Substance abuse	0	0.0	693	2.5	0.123
Major depressive disorder	1	0.9	307	1.1	0.809
Alcohol use disorder	0	0.0	374	1.4	0.412
Charlson Comorbidity Index					<.001
0	2	1.7	7625	27.5	
1	6	5.2	7168	25.8	
2	11	9.6	5343	19.3	
3	11	9.6	3316	12.0	
≥ 4	85	73.9	4307	15.5	
Duration of systemic corticosteroids (days), n (%)					<.001
< 30	47	40.9	18285	65.9	
30 - 364	57	49.6	8635	31.1	
≥ 365	11	9.6	839	3.0	
Annual outpatient visit, n (%)					<.001

< 5	4	3.5	9518	34.3
6-9	11	9.6	5805	20.9
≥ 10	100	87.0	12436	44.8

Abbreviation: AA, alopecia areata; SD, standard deviation; USD, United States Dollar

Supplementary Table 2. Cox proportional-hazards regression analyses of dementia risk for alopecia areata and other patient characteristics

Patient characteristic	cHR	(95% CI)	<i>p</i>	aHR [†]	(95% CI)	<i>p</i>
Alopecia areata	3.86	2.57 - 5.81	<.001	3.24	2.14 - 4.90	<.001
Age at diagnosis of alopecia areata (years)	1.17	1.15 - 1.20	<.001	1.17	1.14 - 1.20	<.001
Sex, male vs. female	1.38	0.96 - 1.99	0.085	1.01	0.68 - 1.51	0.945
Monthly premium (USD)			<.001	0.00		0.769
501-800 vs. 0-500	0.32	0.20 - 0.50	<.001	0.89	0.55 - 1.46	0.653
≥ 801 vs. 0-500	0.12	0.06 - 0.24	<.001	1.20	0.54 - 2.69	0.658
Residence, n (%)			0.565	0.00		0.765
2 vs. 1	1.43	0.78 - 2.60	0.249	0.87	0.46 - 1.65	0.679
3 vs. 1	0.78	0.28 - 2.14	0.628	0.58	0.20 - 1.70	0.321
4 vs. 1	0.96	0.39 - 2.35	0.921	0.69	0.27 - 1.80	0.453
5 vs. 1	1.27	0.71 - 2.25	0.422	0.99	0.54 - 1.81	0.964
Comorbidities						
Cerebrovascular diseases	8.85	6.13 - 12.78	<.001	2.05	1.37 - 3.08	0.001
Traumatic head injury	1.77	0.56 - 5.58	0.328	0.42	0.12 - 1.43	0.164
Hypertension	5.07	3.29 - 7.81	<.001	0.83	0.51 - 1.35	0.455
Dyslipidemia	1.46	1.01 - 2.12	0.047	1.07	0.70 - 1.64	0.757
Diabetes mellitus	2.19	1.48 - 3.22	<.001	0.81	0.53 - 1.22	0.309
Substance abuse	0.00	0.00 - .	0.975	0.00	0.00 - .	0.981
Major depressive disorder	1.18	0.16 - 8.43	0.872	3.09	0.42 - 22.92	0.270
Alcohol use disorder	0.00	0.00 - .	0.975	0.00	0.00 - .	0.988
Charlson Comorbidity Index			<.001	0.00		<.001
1 vs. 0	2.80	0.56 - 13.85	0.208	1.45	0.29 - 7.27	0.648
2 vs. 0	6.40	1.42 - 28.85	0.016	2.15	0.47 - 9.84	0.326
3 vs. 0	9.63	2.13 - 43.46	0.003	2.59	0.56 - 11.98	0.224
≥ 4 vs. 0	49.20	12.10 - 200.05	<.001	6.52	1.52 - 27.95	0.012
Duration of systemic corticosteroids (days)			<.001	0.00		0.909
30 - 364 vs. < 30	2.30	1.56 - 3.38	<.001	1.05	0.70 - 1.56	0.822
≥ 365 vs. < 30	4.13	2.14 - 7.97	<.001	0.91	0.46 - 1.80	0.783
Annual outpatient visit, n (%)			<.001	0.00		0.013
6-9 vs. < 5	3.61	1.15 - 11.33	0.028	3.00	0.94 - 9.58	0.064
≥ 10 vs. < 5	14.76	5.44 - 40.09	<.001	4.55	1.58 - 13.07	0.005

Abbreviation: aHR, adjusted hazard ratio; cHR, crude hazard ratio; CI, confidence interval; USD, United States Dollar.

†Adjusted for age, sex, monthly premium, residence, comorbidities, Charlson Comorbidity Index, systemic steroid use, and annual outpatient visit.

Supplementary Figure 1. Flowchart of the study

