

Appendix S1

SUPPLEMENTARY MATERIAL AND METHODS

Verification of prurigo nodularis diagnoses

To validate the prurigo nodularis (PN) diagnostic criteria we tested several case algorithms based on number of clinical visits involving PN as the principal diagnosis and PN as one of the diagnoses. For each combination of algorithms, the diagnostic accuracy was determined, including sensitivity, specificity, positive predictive value and negative predictive value from the hospital records (**STable I**).

First, electronic medical records of patients given a diagnostic code for PN were retrieved, not necessarily a principal diagnosis,

at least once between January 1, 2007 and November 30, 2020, at Incheon St. Mary's Hospital, an 821-teaching hospital. We also reviewed the lichen simplex chronicus data to identify any misclassification bias.

Next, to confirm that the retrieved patients had PN, 2 experienced dermatologists reviewed each patient's electronic medical records, including pathology results, photographs, and medical charts obtained initially and throughout follow-up. For each algorithm, it was determined whether patients with PN who met the reference standard were included in the claims data as having PN. It was also verified that patients with lichen simplex chronicus were not included in the claims data as having PN.

STable I. Diagnostic accuracy of prurigo nodularis (PN)

	True positive	False positive	False negative	True negative	Sensitivity	Specificity	PPV	NPV
PN as the main diagnosis (4 times or more)	256	6	8	527	97.0	98.9	97.7	98.5
PN as the main diagnosis (3 times or more)	337	9	9	730	97.4	98.8	97.4	98.8
PN as the main diagnosis (2 times or more)	470	20	11	1114	97.7	98.2	95.9	99.0
PN as the main diagnosis (once or more)	615	50	14	1877	97.8	97.4	92.5	99.3
5 or more hospital visits with a diagnosis of PN	320	13	14	776	95.8	98.4	96.1	98.2
4 or more hospital visits with a diagnosis of PN	403	18	19	988	95.5	98.2	95.7	98.1
3 or more hospital visits with a diagnosis of PN	539	28	26	1351	95.4	98.0	95.1	98.1
2 or more hospital visits with a diagnosis of PN	764	58	34	2041	95.7	97.2	92.9	98.4

PPV: positive predictive value; NPV: negative predictive value.