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CME	Ouestions:

 A 25 year-old man presents to your clinic for evaluation of his severe plaque psoriasis of 6 months duration that affects 15% of his body surface area. His is not on any treatment and denies joint pain. He denies any other known medical issues.

Which of the following conditions have been strongly associated with psoriasis in numerous epidemiological studies:

- a. Colon cancer
- b. Addison's disease
- c. Metabolic syndrome
- 799 d. Peptic ulcer disease
- 800 e. Schizophrenia

Answer: c

Discussion: The current body of epidemiologic literature on psoriasis comorbidities provides strongest support for associations between psoriasis and psoriatic arthritis, cardiovascular risk factors (i.e., obesity, hypertension, diabetes, dyslipidemia, metabolic syndrome), and major adverse cardiovascular events (i.e., myocardial infarction, stroke, cardiovascular mortality). While studies support associations between psoriasis and various malignancies, particularly lymphoma, an increased risk of colon cancer has not been widely observed. Data also suggest that patients with psoriasis are more likely to have autoimmune diseases; however, an association with Addison's disease has not been

812 convincingly established. Similarly, few studies suggest associations between psoriasis 813 and peptic ulcer disease as well as schizophrenia, though supporting data are sparse. Of importance, the association between psoriasis and psychiatric disorders is most 814 established for depression and suicidality. 815 816 Armstrong EJ, Harskamp CT, Armstrong AW. Psoriasis and major adverse 817 cardiovascular events: a systematic review and meta-analysis of observational studies. J 818 Am Heart Assoc. 2013;2(2):e000062. 819 820 Samarasekera EJ, Neilson JM, Warren RB, et al. Incidence of dardiovascular disease in 821 individuals with psoriasis: a systematic review and meta-analysis. J Invest Dermatol. 822 823 2013;133(10):2340-2346. 824 Chiesa Fuxench ZC, Shin DB, Ogdie Beatty A, et al. The risk of cancer in patients with 825 826 psoriasis: a population-based cohort study in The Health Improvement Network. JAMA Dermatol. 2016;152(3):282-290. 827 828 Wu JJ, Nguyen TU, Poon KY, Herrinton LJ. The association of psoriasis with 829 autoimmune diseases. J Am Acad Dermatol. 2012;67(5):924-930. 830 831 Yeung H, Takeshita J, Mehta NN, et al. Psoriasis severity and the prevalence of major 832 medical comorbidity: a population-based study. JAMA Dermatol. 2013;149(10):1173-833 1179. 834

836		Yang YW, Lin HC. Increased risk of psoriasis among patients with schizophrenia: a
837		nationwide population-based study. Br J Dermatol. 2012;166(4):899-900.
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839		Kurd SK, Troxel AB, Crits-Christoph P, et al. The risk of depression, anxiety, and
840		suicidality in patients with psoriasis: a population-based cohort study. Arch Dermatol.
841		2010;146(8):891-895.
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843	2.	You are discussing the cardiovascular disease risk of a patient with severe psoriasis with
844		her primary care provider. You are asked how the risk of cardiovascular disease
845		associated with severe psoriasis compares to that associated with other risk factors.
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847		You explain that the risk of cardiovascular disease that is associated with severe psoriasis
848		is similar to that conferred by which of the following:
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850		a. Diabetes
851		b. Dyslipidemia
852		c. Hypertension
853		d. Inflammatory bowel disease
854		e. Smoking
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856		Answer: a
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Discussion: There are few studies that compare the risk of cardiovascular disease that is associated with psoriasis to that of other diseases. Population-based studies have compared the risk of major adverse cardiovascular events among patients with severe psoriasis to be similar to that of patients with diabetes and also to that of patients with rheumatoid arthritis who are receiving systemic treatment. No studies, to date, have directly compared the risk of cardiovascular disease associated with psoriasis with that of hypertension, dyslipidemia, or smoking. An increased risk of cardiovascular disease has not been established among patients with inflammatory bowel disease.

Ahlehoff O, Gislason GH, Charlot M, et al. Psoriasis is associated with clinically significant cardiovascular risk: a Danish nationwide cohort study. *J Intern Med*. 2011;270(2):147-157.

Ogdie A, Yu Y, Haynes K, et al. Risk of major cardiovascular events in patients with psoriatic arthritis, psoriasis and rheumatoid arthritis: a population-based cohort study. *Ann Rheum Dis.* 2015;74(2):326-332.