Biomarker panel may improve lung cancer risk assessment

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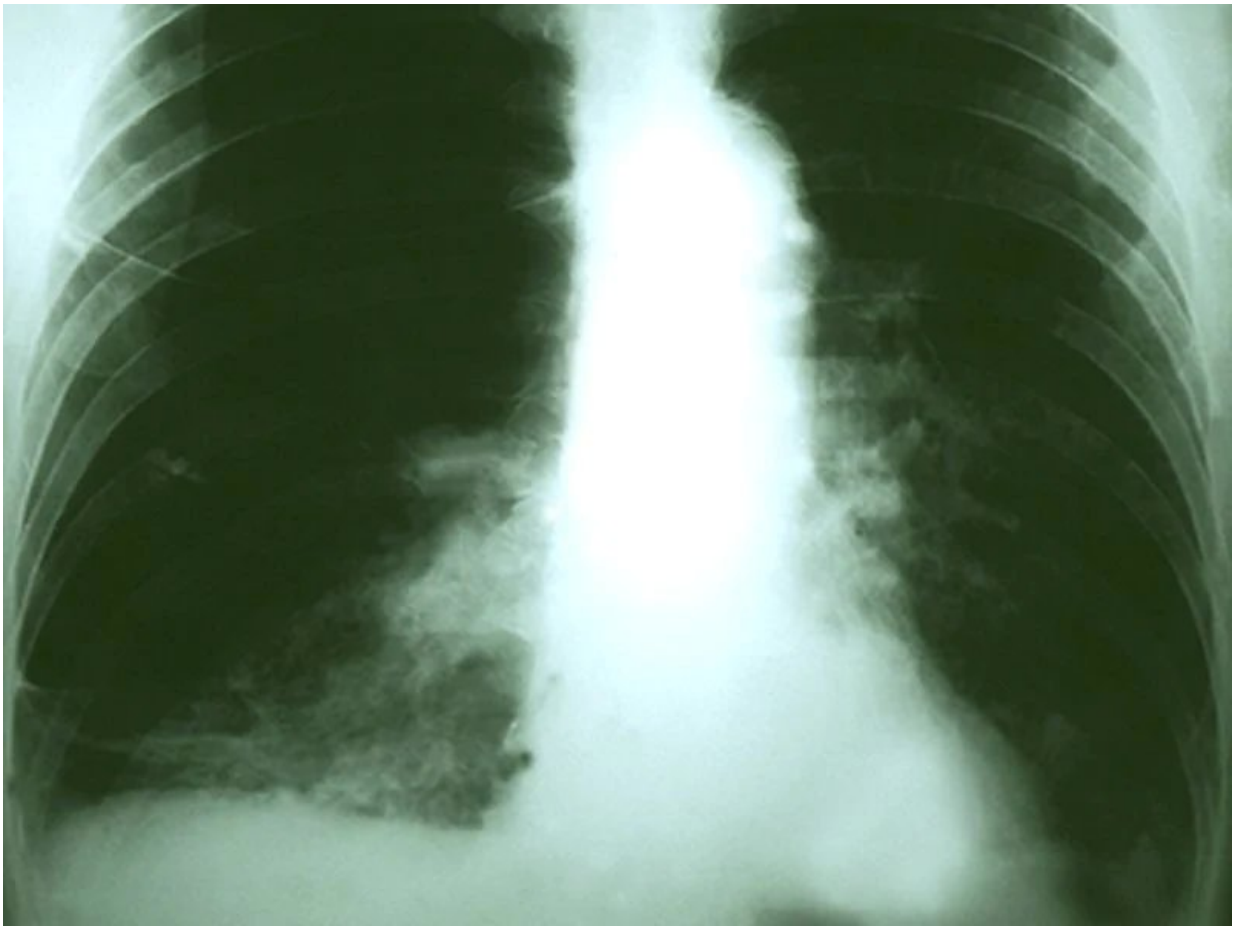

(HealthDay)—Biomarker-based risk profiling has the potential to

improve lung cancer risk assessment, according to a study published online July 12 in *JAMA Oncology*.

Florence Guida, Ph.D., from the International Agency for Research on Cancer in Lyon, France, and colleagues used samples from 108 ever-smoking patients with lung cancer diagnosed within a year of blood collection and samples from 216 smoking-matched controls to develop a lung cancer risk prediction model. The authors based the model on a panel of selected circulating protein biomarkers (cancer antigen 125 [CA125], carcinoembryonic antigen [CEA], cytokeratin-19 fragment [CYFRA 21-1], and the precursor form of surfactant protein B [Pro-SFTPB]) and compared its performance to a traditional risk prediction model and current U.S. screening criteria. The biomarker score was validated blindly using absolute risk estimates among 63 ever-smoking patients with lung cancer diagnosed within one year after blood collection and 90 matched controls from two large European population-based cohorts.

The researchers found that the integrated risk prediction model combining smoking exposure with the biomarker score yielded an area under the curve of 0.83 versus 0.73 for a model based on smoking exposure alone. With an overall specificity of 0.83, based on the U.S. Preventive Services Task Force screening criteria, the sensitivity of the integrated risk prediction (biomarker) model was 0.63 versus 0.43 for the smoking model. Conversely, with an overall sensitivity of 0.42, the integrated risk prediction model yielded a specificity of 0.95 compared with 0.86 for the smoking model.

"This study provided a proof of principle in showing that a panel of circulating protein biomarkers may improve lung cancer risk assessment and may be used to define eligibility for computed tomography screening," the authors write.

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More information: Abstract/Full Text (subscription or payment may be required)