Medical Xpress

Use of computerized systems to help physicians assess patients linked with decreased risk of blood clot

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The use of computerized clinical decision support systems among surgical patients are associated with a significant increase in the proportion of patients with adequately ordered treatment to prevent blood clots, and a significant decrease in the risk of developing a blood clot, according to a study published online by *JAMA Surgery*.

Health care professionals do not adequately stratify risk or provide prophylaxis (preventive treatment) for venous thromboembolism (VTE; blood clot in a vein) among surgical patients. Clinicians are equipped with tools to help decrease the risk of VTE up to 50 percent among the patients at highest risk. Computerized clinical decision support systems (CCDSSs) have been implemented to assist clinicians and improve prophylaxis for VTE. A CCDSS is rule or algorithm-based software that can be integrated into an electronic health record and uses data to present evidence-based knowledge at the individual patient level.

Zachary M. Borab, B.A., of the New York University School of Medicine, New York, and colleagues conducted a review and meta-analysis of 11 articles to assess the effect CCDSSs on increasing adherence to guidelines for VTE prophylaxis and on decreasing VTE events postoperatively compared with routine care without CCDSSs.

The 11 articles (9 prospective cohort trials and 2 retrospective cohort trials) included 156,366 individuals (104,241 in the intervention group

and 52,125 in the control group). The use of CCDSSs was associated with a significant increase in the rate of appropriate ordering of prophylaxis for VTE and a significant decrease in the risk of VTE events.

"We should not ignore the strength of computer science in medicine," the authors write. "The successful implementation of a CCDSS and physician acceptance depend on further trials that lend support to the efficacy of CCDSSs, their cost utility, their user acceptability, and, most important, their ability to change patient outcomes."

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