Easy-to-use tool predicts complications in patients undergoing hysterectomy for benign disease

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Researchers have developed easy-to-use online prediction tools that provide personalized risk estimates for patients undergoing hysterectomy for benign disease. The study describing the models is published in *CMAJ* (*Canadian Medical Association Journal*).

Hysterectomy is one of the most common surgical procedures, with one-third of women in Canada undergoing this procedure before age 60. Laparoscopic hysterectomies are being performed more frequently as they are less invasive than abdominal surgery. Current practice entails that surgeons discuss benefits of the type of procedure and risks of complications with patients.

Researchers from the United Kingdom and Spain developed and tested prediction models with the aim of supplementing a surgeon's expert opinion about which patients might be at risk of complications from hysterectomy. Complications of hysterectomies may include ureteric, gastrointestinal and vascular injury as well as wound complications. The authors used data from the English National Health Service (NHS) on 68 599 women who had laparoscopic hysterectomies and 125 971 women who had abdominal hysterectomies between 2011 and 2018.

"Historically, a surgeon's gut feeling has been shown to be a good indicator of postoperative outcomes; however, an expert opinion is the lowest value in evidence-based medicine," says Dr. Krupa Madhvani,

Queen Mary University of London, UK. "Although a surgeon's experience and expert opinion carries utility, it cannot be used solely to guide risk management. In Canada and globally, the overall rate of hysterectomy for benign disease is declining, and more patients are undergoing surgery by lower-volume surgeons, who may not have expertise in every procedure," write the authors.

Using 11 predictors, such as age, body mass index and diabetes, the researchers also included ethnicity as a potential risk factor, categorizing patients' self-described ethnicity linked to a recent census.

"Ethnicity has been shown to be an independent factor influencing the route and complications of hysterectomy," the authors write.

They found women of Asian background were at higher risk of major complications after abdominal hysterectomy compared with women who were white, although the risk was not associated with laparoscopy. The most significant risk factor for major complications in both procedures were the presence of adhesions, which is consistent with existing evidence.

"These tools will guide shared decision-making and may lead to referral to centers with greater surgical expertise or to exploration of nonsurgical treatment options," write the authors.

More information: Predicting major complications in patients undergoing laparoscopic and open hysterectomy for benign indications, *Canadian Medical Association Journal* (2022). DOI: 10.1503/cmaj.220914

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