

Identifying Older Adults at Risk of Harm Following Elective Surgery: A Systematic Review and Meta-Analysis

Summary

Elective surgeries can be associated with significant harm to older adults. We aimed to identify prognostic factors associated with the development of postoperative complications among older adults undergoing elective surgery. Our results identified potentially modifiable prognostic factors for postoperative complications including frailty, depressive symptoms, and smoking.

Implications

We identified potentially modifiable prognostic factors such as frailty and cognitive impairment that are associated with developing postoperative complications and can be targeted preoperatively to optimize care and improve postoperative outcomes for older adults.

Reference:

Watt J, Tricco AC, Talbot-Hamon C, et al. Identifying older adults at risk of harm following elective surgery: a systematic review and meta-analysis. *BMC Med.* 2018 Jan 12;16(1):2.

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What is the current situation?

- As the number of older adults increases globally, there will be a greater need for elective surgeries in this patient population; however, elective surgeries can be associated with significant harm to patients.
- Although older adults are often seen in the preoperative medicine clinic in anticipation of an elective surgery, little consideration is given to risk stratification for other adverse outcomes that occur in older adults, despite the availability of information to aid in this assessment.

What is the objective?

- Identify preoperative prognostic factors in older adults undergoing elective surgery that may predispose them to adverse postoperative outcomes.

How was the review conducted?

- Medline, EMBASE, CINAHL, Cochrane Central Register of Controlled Trials, and AgeLine were searched for articles between inception and April 21, 2016.
- Prospective studies reporting prognostic factors associated with postoperative complications, functional decline, mortality, post-hospitalization discharge destination, and prolonged hospitalization among older adults undergoing elective surgery were included.
- Two reviewers independently performed study selection, data abstraction, and quality appraisal of included articles.
- Random effects meta-analysis models were used to derive pooled effect estimates for prognostic factors and incidences of adverse outcomes.

What did the review find?

- 5692 titles and abstracts that were screened for inclusion, 44 studies including 12281 patients met the inclusion criteria
- The following adverse postoperative outcomes were reported: postoperative complications (number of studies (n) =28), postoperative mortality (n=11), length of hospitalization (n=21), functional decline (n=6), and destination at discharge from hospital (n=13).
- The pooled incidence of postoperative complications was 25.17%
- The geriatric syndromes of frailty (odds ratio (OR) 2.16, 95% CI 1.29 to 3.62) and cognitive impairment (OR 2.01, 95% CI 1.44 to 2.81) were associated with development of postoperative complications, while more traditional perioperative risk factors in the medical literature such as older age and ASA status were not.
- Other potentially modifiable prognostic factors including depressive symptoms (OR 1.77, 95% CI 1.22-2.56) and smoking (OR 2.43, 95% CI 1.32-4.46), were also associated with development of postoperative complications.