

Review Article

Risk Factors for Adverse Outcome for Elderly Patients undergoing Curative Oncological Resection for Gastrointestinal Malignancies

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(Elder*[tw] OR aged*[tw] OR octogenarian*[tw] OR geriatric*[tw]) AND (surg*[tw] OR operati*[tw]) AND (Gastrointestin*[tw] OR colorectal*[tw] OR gastri*[tw]) AND (Cancer*[tw] OR neoplas*[tw] OR malignanc*[tw]) AND (Risk factor*[tw] OR risk assess*[tw] OR frail*[tw] OR screen*[tw] OR risk*[tw] OR assess*[tw] OR predict*[tw]) AND (Outcome*[tw] OR postoperati*[tw] OR trend*[tw] OR assessment*[tw] OR survival [tw] OR comorbidit*[tw] OR morbidit*[tw] OR mortality*[tw] OR complication*[tw] OR adverse outcome*[tw] OR frail*[tw])

Table 1. Selected articles reviewed and chosen based on agreement and consensus

Author (Year)	Title	Aim	Type	Endpoints	n	Age	Gastrointestinal malignancy (%)
Tan (2012)	Assessment for frailty is useful for predicting morbidity in elderly patients undergoing colorectal cancer resection whose comorbidities are already optimised	To determine if frailty is useful in predicting adverse outcomes in optimised elective elderly colorectal surgery patients	Prospective cohort	Postoperative major complications and mortality within 30 days after surgery Clavien-Dindo Classification of type II	83	≥75	100%
Kim (2013)	Comprehensive geriatric assessment can predict postoperative morbidity and mortality in elderly patients undergoing elective surgery	Evaluate the ability of comprehensive geriatric assessment and its component to predict surgical outcomes	Prospective cohort	Mortality, Morbidity, perioperative events Disposition	141	≥65	Abdominal (general, urology, gynaecology) 19.9 (n = 28) Malignant disease (n = 31)
Huisman (2015)	Screening for predictors of adverse outcome	Investigate the predictive ability of screening	Prospective cohort	Incidence major complication	328	>70	54%

	in onco-geriatric surgical patients: A multicentre prospective cohort study	tools regarding the occurrence of major postoperative complications in onco-geriatric surgical patient		within 30 day mortality			
Huisman (2014)	"Timed Up & Go": A Screening Tool for Predicting 30-Day Morbidity in Onco-Geriatric Surgical Patients? A Multicenter Cohort Study	Compare TUG with ASA in predicting 30 day morbidity	Prospective cohort	Morbidity within 30 days (Clavien-Dindo Classification)	263	>70	52%
Kristjansson (2009)	Comprehensive geriatric assessment can predict complications in elderly patients after elective surgery for colorectal cancer: a prospective observational cohort study	Association between the outcomes of a pre-operative comprehensive geriatric assessment (CGA) and risk of severe postoperative complications	Prospective cohort	Severe complications within 30 days	178	>70	100% colorectal surgery. 1/3 operated on laparoscopically

Makary (2010)	Frailty as a predictor of surgical outcomes in older patients	To determine if frailty predicts surgical complications	prospective cohort	Severe complications Length of stay Discharge disposition	594	>65	
Revenig (2013)	Too Frail for Surgery? Initial results of a large multidisciplinary prospective study examining preoperative variables predictive of poor surgical outcomes	To determine if frailty predicts surgical complications	Prospective cohort	Any complications	189	19 to 86	77.8% gastrointestinal malignancies
Audisio (2008)	Shall we operate? Preoperative assessment in elderly cancer patients (PACE) can help A SIOG surgical taskforce prospective study	To determine the value of an extended CGA in assessing suitability of elderly patients for surgical intervention	Prospective cohort	Mortality Postoperative complications Length of stay in hospital	460	>70	31.3% gastrointestinal malignancies
Kim	Factors associated with	To determine factors that	Retrospective cohort	Postoperative complications	204	>80	100 % colorectal

(2016)	postoperative complications and 1-year mortality after surgery for colorectal cancer in octogenarians and nonagenarians	would after 30 d post-operative complications and mortality at a year after surgery for colorectal cancer in octogenarian and nonagenarians		30 day after surgery Mortality at a year			
Lee (2016)	Use of a comprehensive Geriatric assessment to predict short-term postoperative outcome in elderly patients with colorectal cancer	To identify the effectiveness of a preoperative comprehensive geriatric assessment (CGA) for predicting postoperative morbidity in elderly patients undergoing colorectal surgery	Prospective cohort	Postoperative complications	240	>70	100% colorectal