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REVIEW

Emergency gastrointestinal surgery in the elderly



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Summary The main problem in management of elderly patients who present to the emergency department with abdominal pain is related to difficulties in establishing a diagnosis, because of frequently impaired communication as well as to unusual clinical and laboratory presentations, resulting in delayed management. Early use of pertinent imaging may reduce this delay. Surgical procedures in the elderly do not differ from those in younger patients, but their associated morbidity is different. Assessing co-morbidities and patient frailty, as well as taking into consideration the diagnosis, patients' wishes and status should help in decision-making. Therapeutic decisions should involve surgeons, anesthesiologists and geriatricians alike, both pre- and postoperatively, with the goal of optimizing patients' rehabilitation and offering good and appropriate care while ensuring the humane, social and financial aspects.

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Introduction

Management of emergency surgical disease in the elderly requires that the surgeon combine everyday surgical practice with geriatrics. The elderly have specific characteristics that must be considered from the outset, both before and after surgery and until the end of hospital care, taking care to strike a balance between patient wishes and therapeutic needs, while optimizing patient rehabilitation. In this article, we expose the current knowledge concerning the specificities of diagnosis, surgery and postoperative management within this context.

Diagnosis of abdominal pain in the elderly

No consensus exists to define the limits of different age categories; variations depend on whether the calendar age or physiological age is being considered. During the 1990's, Telfer et al. reported that patients' 50 years old or over represented 26% of emergency department consultations [1]. In 1998, Ciccone et al. analyzed the rate of emergency department visits for abdominal pain, and found that patients in the age ranges of 65–74, 75–84 or over 85 years of age each accounted for 4% of these visits [2]. In addition to statutory age and the analysis of co-morbidities, geriatricians also consider the notion of frailty [3]. Frailty is not a syndrome but a status that predisposes to increased morbidity and mortality. Patient frailty can be evaluated by the speed of walking, level of physical activity and cognitive capacity [4].

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An accurate final diagnosis cannot always be made in the emergency department, and the proportion of nonspecific abdominal pain (NSAP) can be as high as 25%, irrespective of age [5]. Tran et al. found that 20% of patients over 65 were discharged from the emergency department with the diagnosis of NSAP, while 9% underwent operation compared with 35.5% for patients less than 65, with appendicitis accounting for a high proportion of the latter. A final diagnosis of NSAP is made in three out of four elderly patients after hospital discharge during the local physician follow-up [6]. In their series of 209 patients ≥ 60 years of age, Lewis et al. found that 30% underwent an emergency operation [7].

Dang et al. classed the causes of abdominal pain for which the elderly sought medical advice into four broad categories: inflammatory processes, bowel obstruction, ischemia, and nonspecific abdominal pain [8]. Arenal and Bengoechea-Beeby retrospectively studied two elderly populations undergoing emergency surgery, one between 70–79 years old, and the other, over 80 years old. The diagnosis leading to surgery was obstruction in 40% of patients and peritonitis in 30% for both age groups. Ischemia was diagnosed in 4%, and gastrointestinal bleeding in 3–7%. Organ-specific causes included: 23% abdominal wall disorders, 21% colorectal disease, 20% biliary tract disease, 15% small intestinal disease while gastroduodenal and appendicular disease represented 9% and 11%, respectively [9]. Green et al. presented a retrospective study of 100 patients ≥ 80 years of age, seen between 2005 and 2010. Again the indications for surgery were predominantly obstruction, especially colonic obstruction (40%) and peritonitis (37%); 12% had hernia and 5% had gastrointestinal ischemia. The most frequent diseases were hernias and neoplastic disease [10]. Racz et al. found similar outcomes in their retrospective cohort of 145 patients > 90 years of age, operated either electively or emergently, for essentially two diseases: hernia and colon cancer [11].

Difficulties in establishing a diagnosis in elderly patients can be explained by several factors. First, difficulties in obtaining an accurate history in the elderly because of frequent cognitive disorders or deafness. Complementary laboratory and imaging studies can help to refine the diagnosis. Parker et al. have shown in a retrospective study of 180 patients 65 years old or more who were hospitalized urgently for abdominal pain, that there were no statistically significant difference in the hemoglobin level, WBC count, or liver function tests (ASAT, ALAT, Gamma-GT, alkaline phosphatase and bilirubin) between the groups undergoing immediate emergency operation or during hospitalization, compared to the hospitalized group that did not undergo surgery. Nor was there any difference in body temperature measured at the time of admission [12].

As concerns imaging, the American College of Emergency Physicians (ACEP) published recommendations in 2000 regarding the various investigations to be used for the diagnosis of abdominal pain; they recommended computed tomography (CT) enhanced with intravenous contrast [13]. Kidney function should be evaluated before contrast injection by the glomerular filtration rate (GFR) as defined by the modification of diet in renal disease (MDRD) study equation: a nephrology consult is necessary when the creatinine clearance (CC) is lower than 30 mL/min, while prior hydration and discontinuation of nephrotoxic drugs should be the rule when CC is 30–45 mL/min [14]. For biliary disease, first-line sonography is indicated, completed by multi-slice CT or MRI in case of common bile duct disease. As concerns the differential diagnosis of life-threatening disease such as a ruptured aortic aneurysm and myocardial infarction, CT scan and electrocardiogram are all that is necessary to limit erroneous diagnoses [15].

When surgery is indicated, it is important to evaluate the patient's living conditions, autonomy, life-expectancy and prognosis, in particular in patients with several

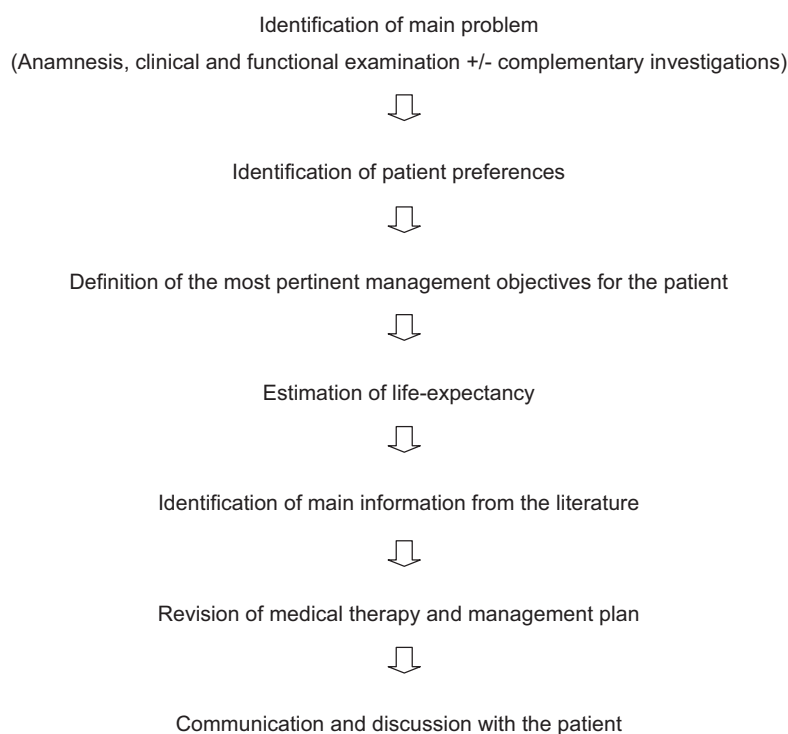


Figure 1. American Geriatrics Society expert guide on the care of older adults with multimorbidity [17].

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