Editorial

Operative Procedures: New Ways of Managing Frailty

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Editorial to accompany the articles:

„The Perioperative Care of Older Patients—Time for a New, Interdisciplinary Approach“ by Cynthia Olotu et al.

and

„Determinants of Perioperative Outcome in Frail Older Patients“ by Anna Mende et al.

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Predictions from the Federal Statistical Office suggest that in 2060 we can expect one third of the German population to be over the age of 65. Even in 2013, there were already 4.4 million people living in Germany who were “very old” (over the age of 80): a figure that equates to 5.4% of the population. By 2050, the number of the very old in Germany will probably go up to 10 million. Assuming that long-term trends in mortality rates continue, in 2060 a 65-year-old man will have a life expectancy of another 23.7 years, and a woman of the same age another 26.5 years (1).

Increase in numbers of older people with cancer

At the same time—although this is also influenced by demographic changes—we can expect a rise in the incidence of cancer, especially liver and pancreatic cancer. The assumption is that 51% of men and 43% of women will develop cancer at some time in their lives (2). In the USA, according to analysis from the Surveillance, Epidemiology, and End Results Program (SEER, seer.cancer.gov), the median age at which cancer is diagnosed is 66 years. In the UK, 36% of all new cancer cases are in people over the age of 75 (www.cancerresearchuk.org).

For a significant proportion of these patients, there will be a question as to whether surgery is possible. Answering this question will involve the consideration that 10% to 20% more complications occur in frail patients than in non-frail patients, and that even in the under-65 age group, up to 10% of patients are frail (3). That higher complication rate will in turn lead to an explosion in costs; the costs for frail patients can be up to 30% higher than those for non-frail patients (4).

Preoperative risk analysis

Previously, we have seen a simple analysis based on age thresholds for surgery replaced by a procedure of detailed preoperative risk analysis. This is reflected in, for example, current recommendations from the various medical specialist societies for the preoperative assessment of adults before elective, non-cardiac, non-thoracic surgical procedures (5). However, looking at perioperative risk just in terms of cardiopulmonary functional reserve, comorbidities, and medication is inadequate to meet the complex challenges of the perioperative care of older patients. This issue of the *Deutsches Ärzteblatt* carries two articles that discuss the future perioperative care of frail patients.

Perioperative care

In an interdisciplinary selective literature review, Olotu et al. list a number of elements that need to be considered in the perioperative care of older patients. In addition to well-known risk factors—chronic disease, comorbidities, and polypharmacy—the main factors they list are:

- Frailty
- Preexisting cognitive impairment
- Osteoporosis and risk of falls
- Malnutrition
- Anticoagulation

Their review article concludes with recommendations for the intraoperative and postoperative periods, especially on screening for delirium and on nutrition (6).

In a CME review article, Mende et al. turn their attention in detail to the concept of “frailty,” which in recent years has been identified as a decisive factor in the perioperative course of older patients. They make the point that merely identifying frailty preoperatively is not enough, although they offer a number of suitable, validated instruments for doing this (7). More than this, however, interventions should be introduced preoperatively to improve the patient’s baseline status before surgery is carried out, so as to reduce the perioperative risk. Interventions of this kind are referred to as “prehabilitation.”

Prehabilitation

A randomized blind study of personalized prehabilitation in patients scheduled to undergo elective major abdominal surgery has shown that prehabilitation interventions not only significantly improved patients’ aerobic capacity, but also reduced postoperative complications by more than 50% (relative risk: 0.5%, 95% confidence interval [0.3; 0.8], $p = 0.001$) (8). Overall, 62% of patients in the control group had at least one complication, versus 31% in the intervention group. The mean number of complications per patient was 1.4 ± 1.6 in the control group versus 0.5 ± 1.0 in the intervention group ($p = 0.001$) (8).

The results of other current studies on this subject are eagerly awaited, e.g., one study investigating prehabilitation in patients scheduled to undergo surgery for cancer of the upper gastrointestinal tract during preoperative neoadjuvant chemotherapy (9).

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Because of the heterogeneity of studies published so far, it is still unclear which multimodal prehabilitation interventions will be most successful, which patients the interventions should be considered for, and how long before surgery they should be started (10). Because of the sectoral separation of healthcare services in Germany with a strict budgetary and organizational separation between in-patient and out-patient care, it is even less clear what kind of organizational structure would be required for prehabilitation programs of this kind to be carried out and paid for. There is a need for action here, not just from the care providers, but also from the payers.

Conflict of interest statement

The authors declare that no conflict of interest exists.

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CLINICAL SNAPSHOT

Late Complication After Surgical Treatment of Aortic Isthmus Stenosis

A 42-year-old man presented to the central emergency department with a 3-week history of left thoracic pain and dry cough. At the age of 11 years he had undergone surgical patch repair of an aortic isthmus stenosis. No follow-up examinations had taken place. No other relevant previous illnesses were known. Thoracic radiography showed a fist-sized mass in the left upper field. Subsequent contrast-enhanced coronal thoracic computed tomography revealed this mass to be a partially calcified aneurysm of the descending thoracic aorta measuring 11 × 8.5 × 8.5 cm. Owing to the size of the aneurysm and the clinical presentation, rupture was a distinct possibility. Formation of an aortic aneurysm is described in the literature as a possible late complication of surgery for aortic isthmus stenosis, especially after Vosschulte patchplasty. The patient was treated by means of carotid–carotid–subclavian bypass and thoracic endovascular aortic repair (TEVAR). Aortic isthmus stenosis in the medical history of a patient with thoracic symptoms or cough represents a risk factor. Regular follow-up of such patients is advisable, particularly when they reach old age. The current treatment of choice is resection of the aortic isthmus stenosis and end-to-end anastomosis.

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