

## Precision surgery for older cancer patients

I. MONTRONI<sup>1</sup>, R.A. AUDISIO<sup>2</sup>

The times we are living in will be remembered by healthcare providers for the significant ‘contradictions’ in the medical and surgical care of elderly cancer patients. On one hand it has been documented how anagraphical age *per se* does not contraindicate surgical management at any time in life; on the other hand the vast majority of senior cancer patients are routinely undertreated as a consequence of unproven assumptions.

This group of cancer patients is likely to receive suboptimal treatment, either under-treatment as well as over-treatment. The long chain of events starts with cancer screening: the value of population-based screening campaigns has some obvious limitations, but we feel uncomfortable in realizing that colorectal cancer screening programs are interrupted, in the vast majority of Western countries, at the age of 69 when colorectal cancer presents its highest peak rate. This is resulting into an excess of acute admission due to bleeding and obstruction.

A recent survey among Primary Care Physicians (PCP) and medical oncologists in France has shown how patient’s chronological age is highly associated with a decision not to refer patients with advanced cancer to oncologic specialties (1).

Not surprisingly, an increasing number of elderly people are seeking urgent surgical care because of unplanned urgent conditions and advanced disease (2). This results into a disproportionately high operative mortality which can be twice as high as in the younger age group.

Decision making in the emergency setting is complex since multiple variables must be considered in order to tailor surgical treatment; these include patient’s specific characteristics, the nature of the disease and patient’s wishes versus the pressing need to act proficiently in a short period of time. Frailty, not chronological age, is the most important risk factor for poor surgical outcomes. It was conclusively established that every elderly patient with cancer should undergo geriatric assessment before oncological treatments: unfortunately, this is not always applicable in the busy emergency setting.

Recent experiences have suggested that the adoption of simple frailty assessment tools designed for the emergency setting, such as the Flemish version of the Triage Risk Screening Tool (fTRST), could be beneficial in identifying patients who are not suitable for surgery. fTRST is based on five simple domains: presence of cognitive decline, living alone or having no help from partner/family, reduced mobility/falls in the past 6 months, hospitalization in the past 3 months and polypharmacy. Extensive data on the value of the fTRST to identify patients at higher risk of complication and extended hospital stay, were presented at the International Society of Surgical Oncology (SIOG) annual meeting, 2016 (3).

Cancer treatment for older patients, even in the elective setting, is frequently influenced by factors leading to under-treatment and inferior outcomes as demonstrated by Whang et al. (4) in a group of 21,390 patients from the Surveillance, Epidemiology, and End Results (SEER) database (1991-2002). The authors showed that the rectal-cancer-specific survival rates decreased as patients’ age increased. More recently, De Angelis et al. (5), on behalf of the EURO-CARE-5 study group, showed a global increase in cancer survival from 1999–2001 to 2005–07 when the older age subgroup is excluded. The unequivocal bring home message is: surgery fails to treat elderly cancer patients.

In the UK the National Cancer Intelligence Network demonstrated how elderly patients with so-

<sup>1</sup> Colorectal Surgery, “Ospedale per gli Infermi”, Faenza (RA), Italy

<sup>2</sup> University of Liverpool, Consultant Surgical Oncologist, St Helens Teaching Hospital, St Helens, UK

Corresponding Author: Riccardo A. Audisio, e-mail: raudisio@doctors.org.uk

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lid tumors receive less surgery as compared to their younger counterparts. Taking colorectal cancer as an example, the resection rate falls from 68% in the group of 64-74 years of age to 40% in case of 80 year and older; this associates with a decreased use of multimodal treatments and radical resection rates, whereas the local excision rate is increased.

Such a substantial mistreatment can be explained by a number of reasons: first, there is a poor understanding of cancer biology. Solid tumors are killers at any age as shown for colorectal, breast and pancreatic cancer; second, a prejudice about life expectancy is usually preventing cancer specialists to offer the best possible treatment. In the USA a 75-year old male in good health has 18 more years in front of him and 10 years at the age of 82 (6). The presence of severe comorbidities shrinks life expectancy to 6 and 2 years respectively, which is still a far longer period when compared to the average overall survival of untreated cancer subtypes. Third, surgeons are over-concerned to bring senior adults to the operative room, despite vast available data demonstrating how fit older individuals can successfully undergo most complex invasive procedures (7).

A decade ago the PACE study (8) proved that the assessment of frailty in every elderly patients undergoing surgery accurately predicts the operative mortality, morbidity and costs. This was achieved by means of a non-cancer-specific tool (Comprehensive Geriatric Assessment - CGA). In 2014 the PREOP study (9) showed that the complex and time consuming CGA, could be replaced by quick and surgeon-friendly tools like the "Timed Up-and-Go" test and how nutrition has to be optimized to minimize complications.

The present challenge of any healthcare system is to identify the value of care, rather than its cost (10). We must become aware that treatment outcomes cannot merely be measured by financial figures, length of hospital stay and overall survival; results must be patient-centered and consistent with the expectations of the individuals we care for. To achieve this, we need to identify which are the outcomes that really matter to older patients and how we can offer them a better quality of life. The GO-SAFE study (11) was recently opened to serve this purpose, aiming to record quality of life besides functional recovery of elderly patients undergoing major oncological surgery. The ambitious endpoint of this international prospective registry is to take a real-time-picture of the ultimate outcomes achieved when delivering personalized care to fit, frail, vulnerable and even cancer patients with cognitive impairment.

Individualized surgery is not standing on targeting molecular biomarkers but on putting real-life patients needs as the ultimate goal of care. It is intended to deliver tailored, personalized surgery and aiming for the best outcomes our older patients deserve and demand.

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