older cancer patients is influenced not only by the tumor itself but also by the various comorbidities and geriatric problems associated with old age. The health status of each older individual should be evaluated in order to optimize cancer decision making in this age group.
Oncologists are aware of a procedure for detecting older patients whose health problems may interfere with cancer treatment. Multidimensional geriatric assessment (MGA) addresses the major concerns of geriatric assessment (GA), i.e. patients' physical and mental status, their social, environmental and economic situation, their functional status, and geriatric syndromes. The MGA process involves a trained interdisciplinary team usually including a nurse and a geriatric-trained oncologist or a geriatrician, and sometimes a physical therapist, a dietician, a social worker, a pharmacist and a psychologist. Patients' health problems are detected through different validated screening tools: Katz's Activities of Daily Living and Lawton's Instrumental Activities of Daily Living scales; Cumulative Illness Rating Scale for Geriatrics; Timed Up & Go test or Performance-Oriented Assessment of Mobility instrument; Folstein's Mini Mental Status Examination; Geriatric Depression Scale; Mini Nutritional Assessment; medication review and appraisal of potential drug interactions. The findings from these tests provide a better picture of older patients' health status before cancer treatment decision making.
Nevertheless, the MGA approach requires geriatric skills that are hardly available in conventional oncology units. Thus, specific screening tools are currently being developed to help oncologists differentiate healthy senior adults from patients whose problems might interfere with cancer treatment and who require more in-depth GA. These instruments must be easy to administer and quick to complete, and not require geriatric resources.
The French National Cancer Institute has sponsored a prospective study, ONCODAGE, to validate an innovative geriatric screening tool designed to identify older cancer patients requiring GA before cancer treatment decision-making. The screening tool called G8 is composed of one question about the patient's age and 7 items from the Mini Nutritional Assessment instrument. Results of a pilot study have shown that a total score lower than 14 out of 17 indicates that the patient needs a full GA procedure. G8 will also be compared with the VES-13 instrument and a set of validated geriatric screening tools described earlier.
A total population of 1650 newly diagnosed cancer patients will be included in around 15 centres over a 1-year period. Preliminary results are expected by the beginning of 2010.
In conclusion, older cancer patients require both cancer and geriatric assessments. The more efficient model could be a two-step procedure including a preliminary screening test followed by a true GA for older patients identified as frail or vulnerable. This approach allows to characterize the patient's health status and to offer appropriate cancer treatment options. Consistent guidelines on cancer treatment in the elderly should be issued after the GA process is standardized.

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Radiotherapy in older patients for early breast cancer

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With the age related rise in incidence of breast cancer and the raising of the upper age limit of the UK breast screening programme to 69 years, the number of patients potentially eligible for adjuvant irradiation has risen dramatically over the last decade. However exclusion historically of patients over the age of 70 from clinical trials has led to a dearth of level 1 evidence on the role of postoperative radiotherapy (RT). The Oxford overview provides information on over 24,000 women treated with adjuvant radiotherapy (1) for operable breast cancer. However only 550 (9%) of the 6097 patients with axillary node negative breast cancer treated by breast conserving surgery were over the age of 70.
Despite the evidence that older patients can tolerate RT (2), there is evidence that the receipt of radiotherapy falls with age (3), irrespective of comorbidity status and stage of disease. The use of RT fell from 77% to 24% in women with no comorbid conditions between the ages of 65−69 and 80 years or older. A study from the SEER database of 29,760 women aged 65 or older diagnosed between 1991–2002 and treated by breast conserving surgery (BCS) showed that 22,207 (75%) received radiotherapy. Patients were more likely to receive radiotherapy if they lived in urban areas, were white, married and had fewer comorbidities.
There are few level 1 data on the impact of adjuvant RT after BCS in older patients. In women over the age of 70 the absolute risk reduction for 5 year ipsilateral breast tumour recurrence rate was smaller (11% vs 22%) compared to women under the age of 50 (1). The CALGB trial showed that in women 70 years or older with TI, NO hormone receptor positive tumours that adjuvant RT reduced the 5 year risk of IBTR from 4% to 1% (4). The difference was modest but statistically significant ($p < 0.001$). The international PRIME 2 trial (target accrual 1300 patients) is currently assessing the omission of postoperative RT in low risk (T1−2 [<3 cm], MO) hormone receptor positive breast cancer after BCS and adjuvant endocrine therapy (5). The EORTC 22881–10882 boost trial has provided level 1 evidence of the value of a boost dose after BCS and whole breast RT. The absolute of benefit of the boost in reducing the 10 year IBTR rate is smaller in women over the age of 60 (3.5%) (7.3% vs 3.8%, $p = 0.008$). A boost should offered to all fit older patients.
Shorter hypofractionated dose fractionation regimes are more convenient for older patients. Recent evidence from the START trial (6) demonstrates equivalent 5 year local control with 40 Gy in 15 daily fractions to 50 Gy in 25 fractions. A total of 11.5% of the patients in the trial were over the age of 70.
There is a paucity of data on the impact of postoperative whole breast RT on quality of life. The PRIME trial showed no overall difference in global quality of life using the EORTC QLQ C30 and QLQ B23 modules when RT was omitted in a low risk group of T1−2, NO, MO axillary node negative patients at follow up of 15 months (7).
The role of partial breast irradiation (PBI) in older patients remains investigational. Level I evidence is needed to validate this approach in this age group.
No trial of postmastectomy radiotherapy has been conducted exclusively in older patients. The survival advantage in the DBCG 82c trial in patients treated with adjuvant PMRT and tamoxifen only emerged after 5 years. Patients with 4 or more involved axillary nodes should be considered for PMRT if they have a life expectancy in excess of 5 years. The role of postmastectomy RT in women with 1−3 involved nodes or node negative with other risk factors is uncertain and under investigation in the BIG 2−04 MRC/EORTC SUPREMO trial (8).

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Clinical management of the elderly: surgery

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The risk of developing cancer increases with age. The elderly population is growing world wide as a result of medical advances. Consequently, the incidence of cancer within the geriatric population is set to rise. It is predicted that cancer will soon become the leading cause of death, with over half of new solid cancer cases occurring in patients $\geqslant 70$. This epidemiological shift explains the progressive change in the clinical setting, where surgical wards are frequented by elderly patients more than previously. Surgeons are more often having to decide upon whom they should operate. Surgery, the treatment of choice for most solid tumours, carries associated risks of mortality and morbidity which increase with age due to several factors including a reduced physiological reserve and co-morbidities. However, these should not preclude surgical treatment as it has been shown that neither the number nor the gravity of associated medical conditions correlate with operative death and complications.
Life expectancy is very important in tailoring treatment plans but it is not a reliable prognosticator of the outcomes of cancer surgery. The decision whether to treat should not be based on age alone; a careful multi-dimensional pre-operative assessment is needed. Pre-operative assessment by means of Comprehensive Geriatric Assessment (CGA) defines individualised operative risk. CGA assesses a variety of areas where elderly patients often present problems (impaired functional