

Development of Oncogeriatry – A European Perspective from the French Experience

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Abstract

Oncogeriatry is the clinical discipline concerned with the management of elderly cancer patients. It is based on a global oncological and geriatric approach to the health status of patients. Oncogeriatry has been widely adopted throughout the world, but the approaches used and the organisational solutions provided are complex and varied. Based on the French experience of a centralised health system, the different aspects are discussed: clinical management, organisation, clinical research and information. At a European level, the best approach seems to be a partnership between the International Society of Geriatric Oncology and the Elderly Task Force of the European Organisation on Research and Treatment of Cancer. This co-operation ensures comprehensive information on oncogeriatric programmes, clinical research and teaching programmes, thus enhancing the effectiveness of the oncogeriatric approach.

Keywords

Oncogeriatry, elderly, cancer, health organisation

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Cancer is mainly a disease of the elderly. As a result of increased life expectancy, over 60% of new cancer cases and over 70% of cancer deaths occur in people 65 years of age or older in Europe and in the US.¹ Ageing is associated with progressive but extremely uneven decline of functional reserves and a reduction of adaptability. Geriatricians, who commonly handle the highly heterogeneous process of ageing, have devised a comprehensive multidisciplinary assessment tool called 'comprehensive geriatric assessment' (CGA), in which all aspects of older individuals are considered and all resources and abilities are listed. Based on this appraisal, geriatricians can elaborate and co-ordinate an effective care plan with interventions tailored to each individual's problems.²

Health authorities and health professionals must face the expanding challenge of the management of elderly cancer patients. This challenge has not been anticipated and the ever-increasing number of elderly patients suffering from cancer will result in higher costs of medical and social care. However, the cost-effectiveness of cancer management in the elderly remains to be evaluated both at country level, because health organisations are different across European countries,³ and at the European level. Cost-effective strategies for preventing and detecting cancer early should also be considered.⁴ Two important observations are that elderly patients have been critically undertreated in the past,⁵ but that their willingness to receive treatment is evident.⁶

The recent demographic trend has led to the emergence of a new medical discipline called oncogeriatry and to the worldwide

development of oncogeriatric programmes dedicated to the management of elderly cancer patients.⁷ This article focuses on the principal areas of development of oncogeriatry through a discussion of the French experience, since it is impossible to collect homogeneous data on the organisation of oncogeriatry in the different European countries.⁸ The objectives of this article are:

- to collect basic epidemiological information;
- to focus on the concept of oncogeriatry;
- to define the different approaches of oncogeriatric practice;
- to identify the different possible forms of organisation of oncogeriatric programmes;
- to review the different types of clinical research programmes;
- to make a survey of scientific societies of oncogeriatry with a particular focus on their objectives; and
- to give some indications on possible future developments in oncogeriatry.

Epidemiology

As in the rest of the developed world, life expectancy in Europe is increasing. The proportion of patients over 65 years of age, and even over 70 or 75 years of age, is growing. However, the global life expectancy of a population does not mean that everyone in this population will live longer: the heterogeneity of ageing leads to a highly increased chance of surviving in fit patients and a smaller chance of living in frail patients.⁹ The incidence of cancer increases with age, as is well recognised in the US and in Europe. The International Agency for Research on Cancer website provides a tool

to calculate cancer incidence in women and men living in European countries on the basis of age.¹⁰

Figure 1 shows that cancer incidence increases constantly with age and is higher in men than in women. It is possible to model cancer incidence in the next five, 10 and 20 years in the different cohorts based on date of birth and age.¹¹ A comparison of these extrapolations with observed French data (see Figure 2) demonstrates that the number of elderly patients likely to have cancer is constantly increasing.

The Concept of Oncogeriatrics

Once one has become aware of the multidimensional nature of ageing, questions arise in determining the optimal approach for the management of elderly cancer patients. Inclusion of geriatric criteria in cancer protocols is universally proposed. Although eligibility criteria for prospective clinical trials generally allow the inclusion of patients 70 years of age and over, elderly patients are under-represented in clinical studies.¹² Investigators usually integrate some CGA tools (sometimes referred to as ‘abbreviated CGA’)¹³ when designing clinical trials.¹⁴ CGA explores different aspects of the elderly population:

- dependence (activities of daily living and instrumental activities of daily living scales);
- cognitive domain (Mini Mental State Examination);
- emotional condition (geriatric depression scale);
- co-morbidity (cumulative illness rating scale–geriatric or Charlson’s scale);
- nutrition (mini nutritional assessment [MNA]);
- polypharmacy (number of drugs); and
- geriatric syndrome identification.

There are many limitations to the use of the different geriatric evaluation scales: which geriatric skills are needed? who should perform abbreviated CGA? how long does it take? what benefit can cancer patients expect from abbreviated CGA? As of now, the most common option is to select only a limited number of significant variables routinely available in the oncology setting. However, there is no consensus about the choice of these variables. The Société Internationale d’Onco-Gériatrie (SIOG, or the International Society of Oncogeriatrics) task force on CGA has made an attempt to study the different tools in depth and to define a common language for assessing the health status of elderly cancer patients;¹⁵ however, two questions remain unanswered. The first is the definition of a specific tool for screening patients requiring a CGA. The second relates to the real impact of geriatric interventions.

No screening tool has yet been validated in elderly cancer patients. The objective of screening is to select patients who could benefit from CGA: frail elderly patients and those assessed as ‘vulnerable’ (there is no definitive definition of vulnerability; this group represents patients with possibly reversible ageing-related problems).¹⁶ Rapid changes should occur in the near future based on the growing number of teams involved in this field of research and on the dynamism of SIOG. Several retrospective studies are using multivariate analysis to identify the strongest factors for screening frailty.¹⁷

ONCODAGE, a prospective study funded by the French National Cancer Institute, aims to validate an innovative geriatric screening tool for identifying older cancer patients requiring CGA before cancer

Figure 1: Cancer Incidence in European Men and Women on the Basis of Age, According to the International Agency on Research on Cancer (IARC) Tool¹⁰

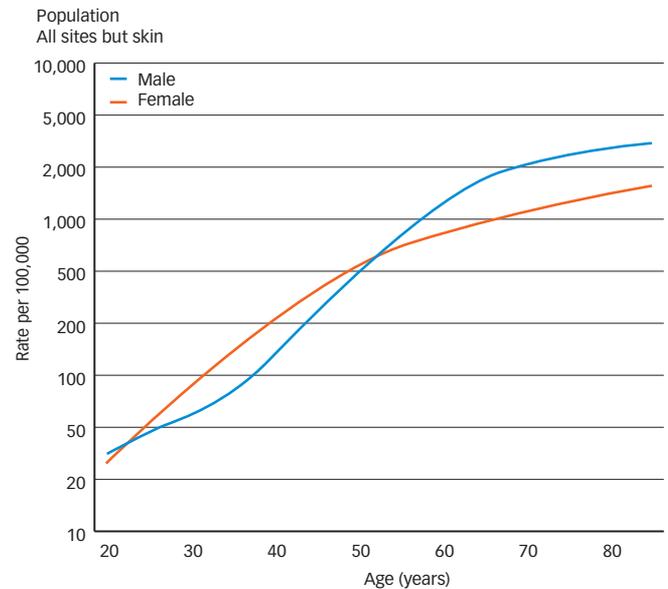
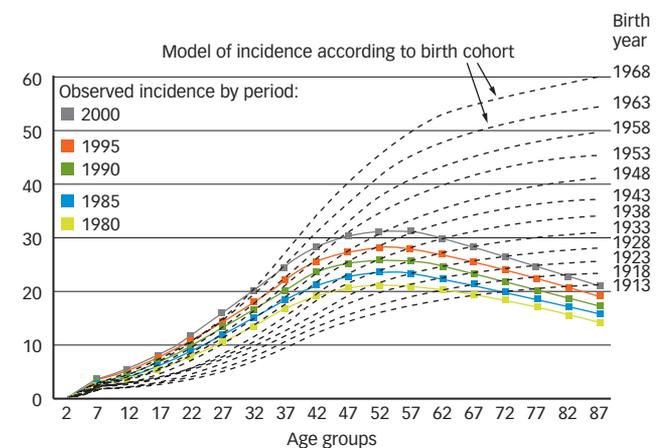


Figure 2: Models of Cancer Incidence in the Next Five, 10 and 20 Years in the Different Cohorts Based on Date of Birth and Age¹¹

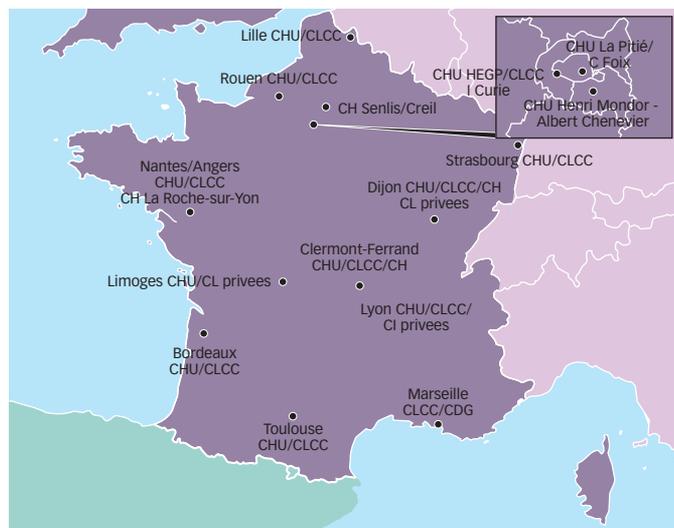


treatment decision-making. The screening tool, called G8, includes one question about the patient’s age and seven items retrieved from the MNA. A previous pilot study has shown that a total score lower than 14 out of 17 indicates that the patient should undergo a CGA. G8 will also be compared with the vulnerable elderly survey (VES-13)¹⁸ and the set of validated geriatric screening tools described earlier. A total population of 1,650 patients newly diagnosed with cancer will be included in around 15 centres over a one-year period. Preliminary results are expected to be available by the beginning of 2010.

Finally, CGA is used to determine geriatric management and intervention programmes. The possible impact of geriatric interventions on cancer outcome is unknown, even though some small prospective studies suggest positive effects.^{19,20}

Nowadays the concept of oncogeriatrics is shared by all oncological and geriatric communities around the world. It is interesting to engage in a semantic discussion about the term: is it actually

Figure 3: The 15 Pilot Units of Geriatric Oncology (UPCOG) in France



oncogeriatry or geriatric oncology? The term ‘geriatric oncology’ may indicate that it is a sub-speciality of oncology (similar to gastrointestinal oncology), whereas ‘oncogeriatry’ indicates a merge between oncology and geriatrics. We would rather use the second term, but its meaning should be made clear when used in the organisational setting, as the concept will be developed later.^{7,16,21} In addition, the practice of geriatric oncology varies among countries.

Different Approaches to Oncogeriatry

There are different approaches to cancer management in older adults. Oncologists, particularly medical oncologists, have adapted the oncological approach to this group. This is the approach used by the pioneers of geriatric oncology, Monfardini in Italy²² and Balducci²³ in the US. The development of geriatric oncology has been based on the introduction of geriatric concepts, such as dependence, autonomy, malnutrition, etc. Next, the concept of frailty was introduced,¹⁶ but no precise definition is available. There have been two consequences of this approach. The first is that the geriatric approach mainly involves the use of screening tools, which are likely to be as sophisticated as Kanofsky indices.²⁴ The second is that these screening tools identify co-variables that can be introduced in prognostic studies and used as inclusion/exclusion criteria in prospective studies. The advantage of this situation is that it has helped popularise the geriatric approach and stimulated clinical research. The disadvantage is the risk of misunderstanding the global nature of the health status of older adults. Consequently, it seems that specific geriatric interventions have not been sufficiently considered, both in routine treatments and in research applications. This initial, purely oncological, approach taken by the pioneers has rapidly evolved towards a shared management of elderly cancer patients by both oncologists and geriatricians.

On the basis of previous practice, we have attempted to build our own geriatric oncology programme with an equal participation of oncologists and geriatricians for the management of older adults with cancer. With this approach, geriatric tools are only used as screening tests. CGA has become the routine procedure to evaluate the health status of older adults, and geriatric interventions are part of the management of these elderly cancer patients. The consequence of this approach is that the procedure is time-consuming; however, it is

certainly not mandatory for all patients. Moreover, it is difficult to disseminate in the community and to use in a clinical research setting. These two conceptions of oncogeriatry have given rise to different types of organisation.

Different Organisation Models for Oncogeriatry

A specific oncogeriatric programme has been developed in France over the past five years. It originated in 2003 with the cancer plan launched by President Jacques Chirac and the French government.²⁵ At the same time an old age plan was designed to organise the management of elderly patients in France.

When the French National Cancer Institute was created, a specific oncogeriatric committee was mandated to develop the concept in France.²⁶ The committee decided to develop Pilot Units of OncoGeriatry (UPCOG). Two calls for applications were issued in 2005 and 2006. In total, 15 UPCOG were funded across the country (see *Figure 3*). The objectives of these UPCOG were to develop research, education, information and clinical management of elderly patients. All UPCOG received a two-year grant to initiate the project and were evaluated after one and two years. After the two-year evaluation, they received long-term funding allocated on the basis of objectives and previous results. A general evaluation after three and four years of existence is ongoing.

A further step will consist of exploring the possibility of developing a more intensive network of oncogeriatric units aimed at routine case management in the treatment of older adults with cancer. The advantage of this national project is the development of a true health policy and the chance to rapidly increase awareness of the concept of global management for elderly cancer patients. It also facilitates the development of clinical research on a national basis. It does have disadvantages, such as some lack of concurrence between the teams and a risk of standardisation.

Nevertheless, it has been possible to observe that, as no specific organisational structure was required for submitting an application (the only prerequisite was the collaboration of oncologists and geriatricians), different organisational solutions have been proposed. This exactly reflects the conclusions of a survey published by Monfardini on behalf of the SIOG task force.²⁷

The clinical practice of 58 SIOG members working in different centres in different countries around the world was analysed. All participants had identified oncogeriatry as their area of specialisation. CGA was performed in 60% of cases. The implementation of a geriatric oncology programme (GOP) was reported in 21 centres: 85% oncology units and 15% geriatric departments. In most GOPs, case discussion conferences dedicated to the management of elderly cancer patients were scheduled. The multidisciplinary team involved in the activity included medical oncologists, geriatricians, nurses, pharmacists and social workers. Fellowships in oncogeriatry were offered in almost half of the GOPs. Over 60% of the centres were willing to recruit patients to clinical trials, while the proportion of cases actually included was only 20%.

The SIOG task force suggested further developments with a stepwise progression as follows:

- promotion of geriatric oncologists with training in both medical oncology and geriatrics capable of performing CGA;

- comprehensive geriatric assessment in close continuous relationship with a geriatrician;
- ability of geriatric oncologists to perform some form of geriatric assessment in close continuous relationship with a geriatric health department; and
- implementation of fully established GOPs responsible for clinical, training and research programmes with scheduled case discussions between oncologists, geriatricians, other medical specialists and GPs.

To our knowledge, no other European country has developed such a nationwide programme. Nevertheless the idea seems to be in the air in Italy. Generally GOPs are developed in university hospitals, as is the case in Germany, Switzerland, Italy, The Netherlands, Austria, Greece and others. Another possibility is the development of GOP-based networks built around a clinical research project, as has been the case with the surgical project pre-operative assessment in elderly cancer patients (PACE).²⁸

Other specific calls for applications have been launched with the same objective, such as the programme for specific research projects and therapeutic studies in patients of advanced age or in patients with co-morbidities and/or restrictions in organ function and/or poor general condition (medically non-fit) of the Deutsche Krebshilfe. On the one hand this programme is very structured, but on the other hand it mixes completely different health problems: ageing, for instance, is not equivalent to poor condition in younger patients. One of the major aims of these programmes is to stimulate competition between projects.

National and European Oncogeriatric Organisations

One may consider two specific aspects of organisations: clinical research groups or networks and scientific societies for oncogeriatrics.

Clinical Research

In France there is a national oncogeriatric clinical research group called GERICO, which is based at the French Federation of Cancer Centres. Its primary objective is to develop feasibility and phase II trials to measure the impact of using geriatric tools. To date, the group has not been very successful. However, clinical phase II and III trials in organ-specific groups have been developed. A survey of oncogeriatric clinical trials conducted in France was carried out in January 2007. It was difficult to determine whether the list was exhaustive and to verify the exact status of the trials since not all data were readily accessible, but 21 trials were listed at the time (personal data). The largest nationwide trial was the ONCODAGE trial referred to earlier, which was developed by the French National Cancer Institute.

In Europe, national geriatric clinical research groups were established in different countries, such as Italy, a long time ago,^{29,30} and more recently in the UK³¹ and Germany.³² However, a comprehensive survey of clinical trials in Europe and even the US is very difficult. In the US, the National Cancer Institute database does not allow the identification of clinical trials specifically dedicated to elderly patients. In Europe, a survey performed by SIOG³³ has identified only six such trials, three of which are in the UK, but they are not accessible through the Medical Research Council website. Nevertheless, international *ad hoc* groups, such as the PACE group, have emerged.²⁸

The only formalised co-operative group is the European Organisation on Research and Treatment of Cancer (EORTC) task force, which is only accessible on the EORTC website to registered practitioners. The group is composed of around 50 investigators from 18 European countries. It is still in the process of formalising its statutes and activities, as well as building its finances. A number of strategies have already emerged:

- to perform retrospective studies on the populations of elderly patients included in EORTC trials from different groups, with a focus on toxicities;
- to introduce some form of geriatric assessment in current trials conducted by EORTC clinical research groups;
- to collaborate with established organ-orientated groups to perform trials specifically designed for elderly patients (for example a study of a combination of chemotherapy and targeted treatment in breast cancer); and
- to perform specific trials within the group, such as testing new drugs in patients with lung cancer.

The group has also been discussing the possibility of developing translational research and the choice of geriatric assessment tools to be introduced in clinical trials, which is one of the major issues to be addressed. This leads to some thoughts. There is a concern about competition between the interests of organ-orientated and age-orientated groups (practitioners could expect to treat half of the entire patient population). There is also a cultural problem with oncogeriatrics, since a large proportion of investigators in oncology consider that there

As the strength of the international society and even of the different national societies is limited, effort should be directed towards strengthening SIOG, not to creating a European society.

is no specificity for elderly patients. An advantage of such competition could be a move in favour of oncogeriatrics. Another major problem is the heterogeneity of geriatric approaches between teams involved in the field. Even the choice between 'oncological approach', as discussed earlier, and 'geriatric approach' may be difficult: the only viable option is to have a pragmatically orientated policy. Last but not least, translational research projects are difficult to build because they must take into account research on the biology of ageing, which is not a familiar concept in the cancer care community, or they may interact with other studies focused on frailty factors (general immunology), whereas the matter of elderly care is often sidestepped by research and clinical teams. In consequence, it is very important that investigators in Europe participate in the EORTC task force: their participation would help disseminate the knowledge of oncogeriatrics among disease-orientated groups and elaborate true translational research projects on ageing and cancer. This is still a work in progress.

Scientific Societies

The French Society of Oncogeriatrics, which is affiliated to SIOG, was founded four years ago. It organises an annual meeting but does not support clinical trials. There is currently an attempt to link this society to

the French Society of Gerontology and Geriatrics. Other national scientific societies of oncogeriatry have been created in different European countries. The relationship between these groups and national societies of oncology and geriatrics is unclear. The number of SIOG members is limited (at several hundred), but the number of participating countries is rather large and there is a great heterogeneity of representation across the countries. Organisation of SIOG is based on the existence of a national representative (NR) committee: to date, 21 European countries are represented.³³ It might be a productive idea to suggest that existing national societies become members of SIOG within the framework of NR committees. On the other hand, it might be useful if members from countries where no national society exists build one with an NR committee and SIOG members. Another idea would be to capitalise on this dynamic and participate in the EORTC task force. However, this effort may not be compatible with the international orientation of SIOG. As the strength of the international society and even of the different national societies is limited, effort should be directed towards strengthening SIOG, not to creating a European society.

Perspectives

The first concern of the authors when preparing this article was the difficulty of collecting information on oncogeriatry in Europe. For this reason it was decided to start from the French experience, for which information is available. This permitted the authors to anticipate the problems that might be encountered at European level. One of these problems is the overlap between groups involved in geriatric oncology, a transversal aspect of oncology, and organ-directed or even treatment-oriented oncology groups. It is thus very important for oncogeriatricians to undertake a strong information campaign on oncogeriatry directed towards the oncology community.

It is worth noting that searches for the terms 'geriatric oncology' or 'oncogeriatry' in Wikipedia have returned no result in the French, Spanish, German and Italian versions, and only one article in the English version (UK and the US). This article refers mainly to the work of the American Society of Clinical Oncology and the Geriatric Oncology Consortium, with links to several websites including the SIOG website. It is important to put information about SIOG in the English version of Wikipedia and in other national versions (a European input is impossible due to the structure of the website). If gathering and disseminating information is the objective, the only remaining possibility is a joint venture between the EORTC (and

particularly the geriatric oncology task force) and SIOG. The aims of this collaboration should be:

- to provide public information targeted to patients, their families and healthcare professionals;
- to compile a list of national societies with contact information;
- to identify clinical trials conducted within the European network but also through national organisations;
- to provide information on basic and translational research programmes;
- to provide information on teaching programmes at both national and European levels; and
- to implement SIOG guidelines.³³

The feeling of the authors is that oncogeriatry is an immature discipline. It requires wide dissemination of information and the agreement of all members of the oncology community. The priorities of national oncogeriatric programmes are not entirely clear; which is the reason why a SIOG task force placed under the leadership of Martine Extermann has been established with the aim of defining the 'top 10 priorities' (M Extermann, personal communication). This will be helpful in enhancing the strength of oncogeriatry worldwide. ■



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