

# Comprehensive Geriatric Assessment and Team Intervention

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## Abstract

As people age, they tend to suffer from disease and various other age-related problems. Because the elderly generally have a variety of problems related to physical functioning as well as psychiatric, psychological, or socioeconomic issues, the conventional medical care model that focuses only on disease itself often fails to provide an adequate solution. A specific procedure oriented to the elderly is comprehensive geriatric assessment (CGA). CGA evaluates the extent of functional impairment of the elderly from the medical, social, psychiatric, psychological, and physical aspects, and allows multidisciplinary intervention by a team of health professionals that can include physicians, nurses, physiotherapists, pharmacists, dietitians, caregivers, and social workers. The reported advantages of CGA include a decrease in the number of admissions, reduced length of hospital stay, a decrease in the number of institutionalized elderly, improvement in activities of daily living (ADL), and early detection of dementia and efforts to halt its progress. However, inappropriate use of CGA and inappropriate selection of subjects can lead to failure in achieving a satisfactory result. In Japan, the introduction of government-sponsored long-term care insurance furthered the spread of the CGA concept. A deeper understanding of the need for multidisciplinary intervention based on the cooperation of the medical and nursing sectors is expected, with improved medical and nursing care of the elderly being the anticipated outcome.

**Key words** Elderly, Comprehensive geriatric assessment (CGA), Multidisciplinary approach, Activities of daily living (ADL), Long-term care insurance

## Introduction

In 1964, Williamson et al., who examined elderly residents in Scotland, found that their family physicians did not have sufficient understanding of the patients' various problems, including impaired functioning in daily living, and noted for the first time the importance of comprehensive geriatric assessment (CGA).<sup>1</sup>

In Japan, a government-sponsored long-term care insurance system launched in 2000 directed the attention of general clinicians to the impaired functioning of the elderly. A person who receives benefits from long-term care insurance is required to obtain certification of their necessity from a physician. In the process of obtaining certifi-

cation, the concept of CGA is incorporated in the core assessment of basic activities of daily living (BADL), instrumental activities of daily living (IADL), cognitive function, and abnormal behavior. In addition, it is also required that a description of functioning in daily living be provided in the attending physician's statement. Because of these changes, greater knowledge of functioning in daily living has become essential for the attending physician, and thus physicians' attention to this matter has increased. Further, from the fact that a number of recent reports have presented the results of evaluations of the intervention of nursing care or rehabilitation training in terms of CGA, it is expected that attention to CGA will increase in the future.

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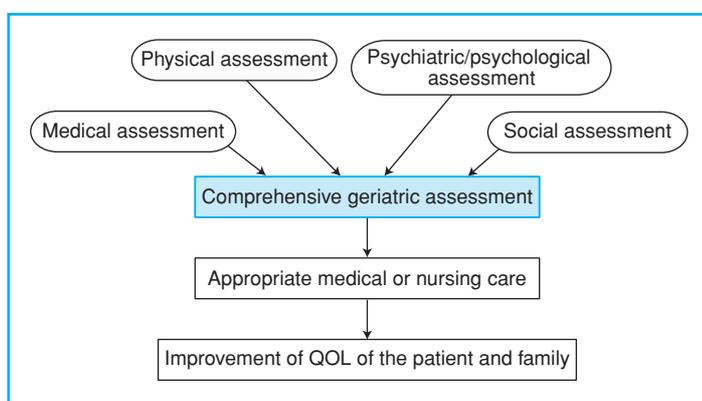
## What is CGA?

CGA is a geriatric procedure in which a comprehensive evaluation including the medical, social, psychiatric/psychological, and physical aspects of an elderly individual with a disease or disorder is undertaken to determine the extent of the individual's impaired functioning in daily living (Fig. 1).<sup>2</sup>

Impaired functioning consists mainly of movement problems, urinary or fecal incontinence,

dementia, unstable movement/falling, and communicative disorder (visual and hearing acuity, speech function, etc.).<sup>3</sup> Such impairments can result from a variety of causes, and the chronic process of the condition interferes with the independence of the elderly individual. Because of this, elderly individuals with impaired functioning tend gradually to become in need of long-term care.

Behind the growing need for CGA is the marked increase in the number of elderly patients with impaired functioning as well as the recogni-



(Excerpted from Nishinaga M. Japanese Journal of Geriatrics. 2000;37:859–865)

**Fig. 1 Comprehensive geriatric assessment (CGA)**

**Table 1 Items and procedures of comprehensive geriatric assessment**

- (1) Basic activities of daily living (BADL)
  - Eating, bathing, dressing, mobility, walking to toilet, urinary control, etc.
  - Barthel index
  - Katz index
- (2) Instrumental activities of daily living (IADL)
  - Telephoning, shopping, preparing meals, housekeeping, laundry, going out to nearby places, transportation, medication management, money management, etc.
  - Lawton
  - ADL-20, Tokyo Metropolitan Institute of Gerontology (TMIG) Index of Competence
- (3) Cognitive functions
  - MMSE (mini-mental state examination)
  - HDS-R (Hasegawa's dementia scale-R)
- (4) Mood
  - GDS (geriatric depression scale), GDS15
- (5) Communication: Visual and hearing acuity, swallowing
- (6) Social environment: Home environment, caregiver, care and support system

(Adapted from The Japan Geriatrics Society ed. Geriatrics textbook (revised edition). Medical View Co., Ltd., Tokyo, 2002;153.)

tion that the conventional acute-disease model, which has been used for infections or other diseases, is no longer suitable in this situation. Therefore, a method of functional evaluation was required that would provide relevant information on the actual functioning of the elderly patient to the geriatric care professional, while being applicable to complex symptoms and patient needs related to disease or impaired functioning. In addition, a methodology for providing appropriate care to the patient according to his or her individual situation was also required.<sup>3</sup>

### Fundamentals of CGA

CGA is a method used to assess impaired functioning that takes into account the following functions:

physical, psychiatric/psychological, social, and medical. The elements of CGA include: 1) basic activities of daily living (BADL), 2) instrumental activities of daily living (IADL), 3) cognitive function, 4) mood, 5) communication (visual or hearing disorders), and 6) social environment (family environment, caregiver, care and support system, etc.) (Table 1).

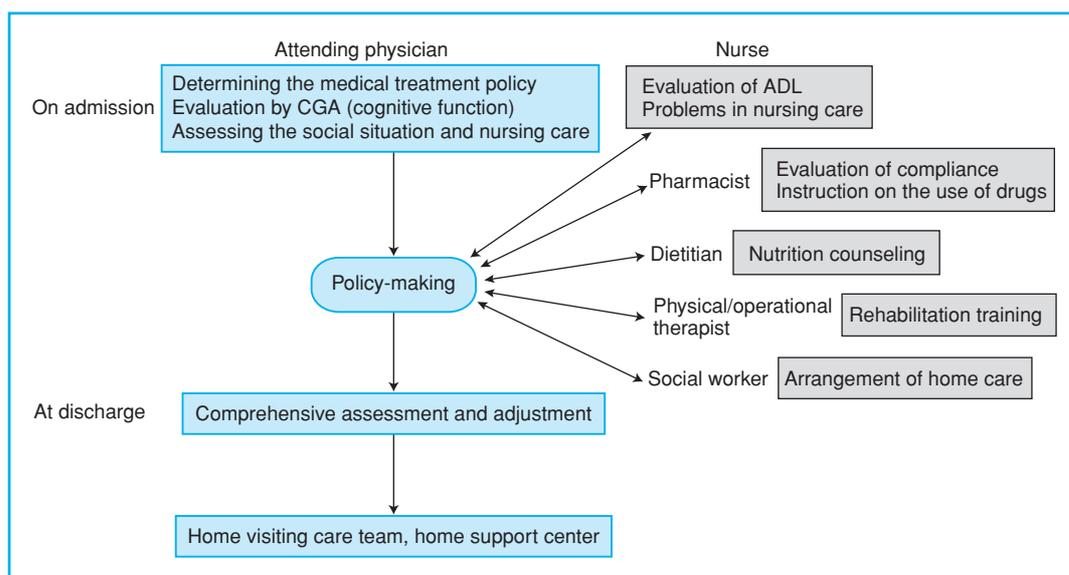
### Forms of CGA and Their Usefulness

It has been reported that CGA is effectively associated with a decreased number of admissions, reduced length of hospital stay, decreased institutionalization, improved QOL, decreased medication, improvement of ADL, and decreased mortality.<sup>4,5</sup> CGA is divided into several forms

**Table 2 Forms of comprehensive geriatric assessment (CGA)**

- (1) Geriatric evaluation and management unit (GEMU) (ward)
- (2) Inpatient geriatric consultation service (IGCS)
- (3) Outpatient assessment service (OAS)
- (4) Hospital-home assessment services (HHAS)
- (5) Home assessment service (HAS)

(Excerpted from Stuck AE, et al. Lancet. 1993;342:1032-1036)



(Excerpted from Nishinaga M. Japanese Journal of Geriatrics. 2000;37:859-865)

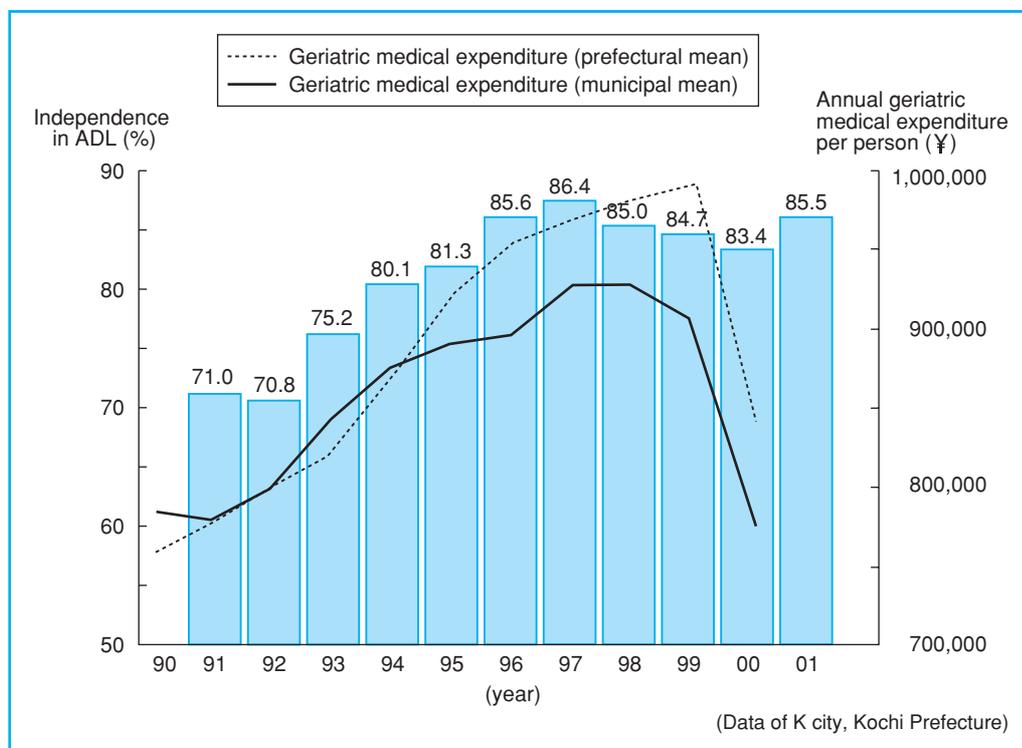
**Fig. 2 Flow chart of the multidisciplinary approach**

according to its usage (Table 2).<sup>5</sup>

CGA employed for elderly patients with complex problems who were admitted to evaluation and management in special units designed for such patients have been reported to confer various benefits, such as improved functioning including ADL scores, decreased institutionalization, and decreased mortality.<sup>1-5</sup>

Repeated admissions represent a problem common to elderly patients with heart failure. Of 104 patients admitted to a hospital because of heart failure (mean age 79.2 years), 32% were admitted again within 6 months,<sup>6</sup> and 36% of the reasons for readmission were factors other than the disease itself, such as decreased compliance. In this connection, multidisciplinary intervention by a team consisting of the attending physician, physical/occupational therapist, medical social worker, nurse, dietitian, and pharmacist was carried out in a CGA and management unit, in order to allow elderly patients with heart failure to continue living at home after discharge

(Fig. 2).<sup>2</sup> Among patients who experienced two or more admissions within 2 years, 66 patients (mean age 80 years) who were admitted to the CGA and management unit were compared with 112 patients (mean age 81 years) who were admitted to general wards. The percentage of patients who experienced another admission within 30 days after discharge was 17% for general ward patients, whereas it was 1.5% for CGA unit patients. The corresponding percentages for readmission within 100 days after discharge were 41% in general ward patients and 21% in CGA unit patients. Thus, both readmission rates were lower in CGA unit patients.<sup>6</sup> In addition, when NYHA functional classification, ADL score, number of admissions and hospital days with heart failure, and total medical cost before intervention were compared with those after intervention in 29 patients who were followed for more than a year after discharge from the CGA unit, all these parameters were found to have improved after intervention.<sup>7</sup>



(Excerpted from Department of Geriatrics, Kochi Medical School Hospital. 2002 Report of the Kohokucho Healthy Long Life Plan)

**Fig. 3 Annual changes in degree of independence and geriatric medical expenditure over 10 years in elderly residents in a city in Kochi Prefecture**

The use of CGA for inpatient consultation or outpatient assessment represents a low-cost strategy, but few reports have documented its usefulness, probably because of the lack of sufficient control over home care after discharge, resulting in inadequate implementation of the recommendation and interventions indicated by CGA, because of the failure to choose subjects who could benefit most, or because of the lack of long-term follow-up. Since most elderly patients require home care, it is considered that the usefulness of CGA depends on the coupling of assessment during hospital stay and care after discharge.<sup>1</sup>

CGA of local elderly residents has progressed in the UK, Denmark, and other countries, and is mainly aimed at preventing the frail elderly from falling into a state that would require nursing care. In recent years, the usefulness of this type of CGA has been reported from the USA, Italy, Germany, and other countries. In Japan, Matsubayashi et al. carried out CGA in local elderly residents of a city in Kochi Prefecture, and provided intervention based on the results of assessment. As a result, they obtained an increase in the percentage of elderly individuals independent in ADL and a lowering of the increase rate in mean annual medical care expenditure per elderly individual, despite the further aging of the population<sup>8</sup> (Fig. 3).

Stuck et al.,<sup>5</sup> who carried out a meta-analysis of 28 reports on CGA using controls, reported that improvement in physical function was obtained only when CGA was used in specialized CGA units, and the preventive effect on institutionalization was associated only with CGA used for local elderly residents. In addition, a significant prolongation of home care was achieved only by CGA in specialized CGA units and by CGA used for discharge from the hospital to home.

All healthcare professions dealing with the elderly are required to consider the treatment and care of these patients, based on a broad vision that includes not only the patients them-

selves but also their families. A uniform, rigid intervention that provides a patient with a predesignated form of care is not adequate for the complex situations of individual patients. Although it is apparent that CGA is a useful method of assessment, it is necessary in implementing the recommendations drawn from the results of assessment to be aware of the change in the system, giving close attention to the following: selecting appropriate subjects; coordinating assessment, care planning, and implementation; and conducting regular follow-up evaluations.

In many hospitals where CGA has been introduced, various healthcare professions including physicians, nurses, physiotherapists, pharmacists, caregivers, and medical social workers share information in a common language (i.e., via a standardized assessment tool), and participate as independent professionals in preparing the treatment or care plan and the individual medical or nursing care plan from hospital to home, thereby improving the quality of care plans. In addition, more than a few CGA instructors attach importance to the effect of this approach in leading to an increase in the motivation of each healthcare professional as an independent specialist.

## Conclusion

Although the concept of CGA is spreading to local communities following the advent of government-sponsored long-term care insurance, when long-term care insurance is to be provided, continuity from medical care to nursing care is mainly based on the attending physician's statement. Therefore, support for such continuity can be somewhat precarious in the case of frail elderly patients who are repeatedly hospitalized. Although changes will be made to the medical care system and a rapid increase in the population of the frail elderly is likely in the future,<sup>9</sup> the spread of CGA as a powerful tool of medical institutions directed toward local residents is certainly desirable.

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