

Community Network for Dementia and Critical Path in Japan

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Abstract

In Setagaya City of Tokyo, regional hospitals and medical associations cooperated in formulating the Setagaya Regional Cooperative Critical Path for Diagnosis of Dementia, and put this system into practice in 2008. In this critical path, a physician in a clinic refers his/her patient to a regional hospital in the critical path network, using a patient record form prepared by the clinic. The doctor who receives the referral in the network hospital examines the patient for the presence/absence of dementia, determines the underlying cause of dementia, and returns the patient to the referring doctor in the clinic with the therapeutic strategies decided upon. The patient is then followed by the referring doctor in the clinic while being given drug therapy or other necessary treatments, and is examined in the hospital regularly at intervals of about 6–12 months. The introduction of this critical path system has facilitated smooth cooperation among hospital physicians, primary care physicians and staff involved in the care of patients with dementia. Further formulation of a system to support patients with dementia involving the whole community through cooperation among patients and their families, primary care physicians, regional hospitals, administrative authorities, and regional comprehensive support centers is awaited. Such a system would facilitate reaching the future goal of constructing a community that allows people to live with peace of mind even after becoming demented.

Key words Critical path for dementia diagnosis, Network hospital, Regional comprehensive support center, Clinic, Medical association

Introduction

At present, the number of patients with dementia in Japan is estimated to be 2.26 million, and this



figure is expected to further increase as the population ages. The diagnosis of dementia and differentiation of causative diseases are not necessarily easy for general physicians other than those

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Neurological findings (Fill in only at the first referral)		
Present	Absent	(1) Dysarthria, dysphagia
Present	Absent	(2) Tremor
Present	Absent	(3) Gait impairment
OLD (Fill in only at the first referral)		
Yes	No	(1) The patient always forgets the date.
Yes	No	(2) The patient often forgets things that happened a short time ago.
Yes	No	(3) The patient cannot repeat a story that he or she heard recently.
Yes	No	(4) The patient often repeats the same story.
Yes	No	(5) The patient always repeats the same story.
Yes	No	(6) The patient is often at a loss for particular words or phrases.
Yes	No	(7) The patient easily loses the context of the story.
Yes	No	(8) The patient's answer indicates that he or she does not understand the question.
Yes	No	(9) The patient has considerable difficulty understanding the conversation.
Yes	No	(10) The patient has no concept of time.
Yes	No	(11) The patient tries to make his or her story sound plausible.
Yes	No	(12) The patient appears to be dependent on family members (e.g., turning to a family member when asked a question)
Attached data <input type="checkbox"/> Absent <input type="checkbox"/> Present Content ()		

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Fig. 1 Excerpt from the patient record form from clinic to hospital

engaged in clinical practice for dementia. On the other hand, the diagnosis of dementia, particularly early diagnosis of the disease, is increasingly important because some diseases causing dementia are treatable, drug therapy improves symptoms to some extent even in cases with degenerative diseases including Alzheimer's disease, and a number of disease-modifying drugs have been developed.

In Setagaya City of Tokyo, hospitals and medical associations in the city cooperated in formulating the critical path for diagnosis of dementia, and put it into practice in 2008. This report describes the history and process of formulating the critical path, its method of operation and performance of the path procedures, and future issues and perspectives.

Process of Formulating the Setagaya Regional Cooperative Critical Path for Diagnosis of Dementia

Two medical associations in Setagaya City (Setagaya Medical Association, Tamagawa Medi-

cal Association) jointly held a forum for the residents in 2002 and 2003 to deepen the understanding of residents about dementia. On these occasions, a questionnaire survey was carried out. The following responses were obtained: "a primary care physician did not pay adequate attention to the patient when we visited him/her for the treatment of dementia," "the city office was not able to provide relevant information when we asked for the introduction of clinics that could deal with dementia," etc., from the resident side; and "the first examination in a patient with dementia requires too much time," "I have no confidence about the diagnosis," etc., from physicians in clinics.

To resolve these issues, Setagaya and Tamagawa Medical Associations held a training program for memory loss counseling by physicians, targeting clinic physicians in 2006 and 2007. In 2007, the city office registered regional hospitals where the diagnosis of dementia is feasible as hospitals participating in "the Setagaya Network for Memory Loss Diagnosis" to promote cooperation between physicians in clinics and hospi-

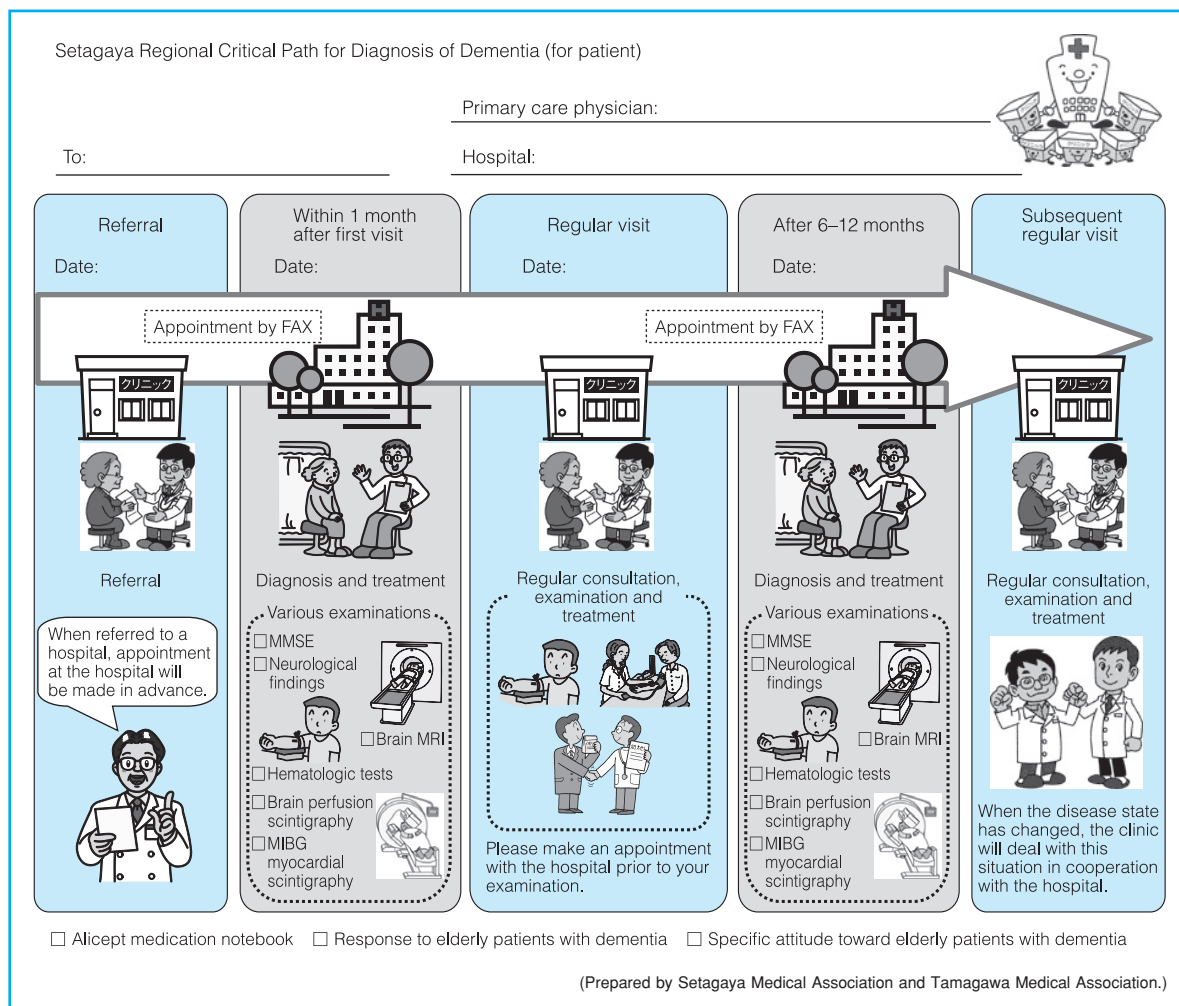


Fig. 2 Illustrated explanatory handout (for patient)

tals. Also in 2007, Kanto Central Hospital took the central role in developing the format for the Setagaya Regional Cooperative Critical Path for Diagnosis of Dementia (the Critical Path), and the Critical Path began to be used in actual practice in April 2008. In October of that year, the Setagaya Dementia Network Study Group (the Dementia Study Group) was set up to discuss relevant policies to practice total clinical care of patients with dementia in addition to the diagnosis of dementia.

Operation of the Critical Path

This Critical Path promotes cooperation among 8 regional hospitals and clinic physicians in the

city, through the use of formats which are applied in common. The Critical Path uses two patient record forms, one for the form from a clinic physician to a referred hospital (Fig. 1) and the other for the form from the hospital to the referring clinic physician, and an illustrated explanatory form to show the flow of cooperative treatment for the patient (Fig. 2).

The starting point of the Critical Path is a clinic physician who has examined a patient with possible dementia. If the clinic physician suspects dementia, the physician refers the patient to a network hospital using the Critical Path, after obtaining the patient's consent. The form recorded by the clinic physician includes frames for recording data on four neurological findings (dysarthria,

dysphagia, tremor, and gait impairment) and an observation list of early symptoms of dementia (OLD),¹ in addition to basic information about the patient (Fig. 1). The observation list, which serves as a simple test, consists of 12 items such as “the patient always forgets the date” and checkable answer columns. Answering “Yes” to at least 4 questions suggests the suspected dementia.

On the other hand, the physician at the hospital receiving the referral performs hematological tests and diagnostic imaging, such as brain MRI, brain perfusion scintigraphy, MIBG myocardial scintigraphy,² which is scintigraphy for assessing the function of the cardiac sympathetic nerve that reveals specific abnormalities in cases of Parkinson’s disease and dementia with Lewy bodies (DLB), as well as history taking, general physical examination, neurologic examination, and neuropsychologic testing. The hospital physician determines the presence/absence of dementia, makes a diagnosis of the causative disease if dementia is present, decides on the treatment policy, and returns the patient to the referring clinic physician. Thereafter, the patient is followed in the clinic while receiving drug treatment, etc., and is examined in the hospital regularly at intervals of about 6–12 months.

Actual Implementation of the Critical Path in Our Hospital

The use of the Critical Path was begun in April 2008, and 276 patients had been referred to our hospital as of September 2010. A definite diagnosis was established in 117 patients between January and December 2009; among these patients, Alzheimer’s disease accounted for 55%, mild cognitive impairment (MCI) 20%, DLB 4%, and memory loss with aging 15%, with some cases of depression and normal pressure hydrocephalus. MCI and memory loss with aging were relatively frequent. This would appear to be attributable to the introduction of the Critical Path which has facilitated preparing the environment for prompt referral, although clinic physicians formerly hesitated when referring their patients who lacked outstanding symptoms to specialists.

The neurological findings reported in the patient record form from clinic physicians to our hospital were checked as “present” only for patients suffering from DLB or normal pressure hydroceph-

alus, as expected, indicating observations made by the clinic physicians to be appropriate.

Dementia is suspected when at least 4 items are positive on the OLD. In the patients referred to our hospital, the number of positive items was generally pertinent, being 7.0 for patients with Alzheimer’s disease, 6.2 for those with DLB, 4.4 for those with MCI, and 3.1 for those with memory loss with aging. There was a negative correlation ($\gamma = -0.533$, $p < 0.0001$) with the results of the mini-mental state examination (MMSE), demonstrating the usefulness of screening.

Future Issues and Prospects

As mentioned previously, 276 patients had been referred to our hospital through the Critical Path, accounting for 60–70% of all referred patients, as of September 2010. Promotion aimed at further spread of the Critical Path is necessary. Because Setagaya City adjoins other cities, it is desirable that the coverage of the Critical Path be extended to allow referral via this system from outside the city, toward the secondary health care region, and eventually encompassing the whole Tokyo area.

Treatment of peripheral symptoms, appropriate responses to emergencies and nursing care are problematic in the actual clinical setting. Although the Dementia Study Group has begun discussing these issues, how to incorporate administrative authorities, the caregivers involved, and family members into the cooperative network remains as a future task. Meetings of the Dementia Study Group serve as a venue for discussions including revision of the Critical Path, and representatives from the responsible division in the city office participate as observers, in addition to network hospitals and the Setagaya and Tamagawa Medical Associations.

This Critical Path for diagnosis and management of dementia is the first step in supporting community-dwelling dementia patients. In the future, cooperation of the entire community not only in diagnosis but also drug and nondrug treatments and emergency responses will be necessary. Establishment of a system for the support of patients with dementia by the full community is intended, aiming at the motto “Setagaya—a town where one can live with peace of mind even after becoming demented.”

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