

Community Liaison Path for Stroke in Kumamoto Prefecture, Japan

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Abstract

In community liaison for stroke, the focus of care changes in accordance with the disease stage—namely, from the disease (in the acute stage) to disabilities (in the convalescent stage), and then to lifestyle (in the maintenance stage). In our community liaison path for stroke (Kumamoto-style), these stages are linked using activities of daily living (ADL) and rehabilitation as the common language, so that information can be shared by all parties while treatment flows continuously. The path is reset when a patient moves from one disease stage to the next, and specific treatment and rehabilitation are implemented in accordance with the internal paths of each medical facility. Additionally, uniformity has been sought for certain issues, such as hospital discharge standards, number of rehabilitation courses, ADL (as the index for determining which rehabilitation courses patients should undergo), and duration of rehabilitation. A total of 117 medical/healthcare institutions (10 acute hospitals, 29 convalescent hospitals, 29 maintenance hospitals, 13 long-term care facilities, and 36 clinics) belong to the liaison, which virtually covers the entire prefecture.

Regarding ADL, 48% of patients at the time of discharge from acute hospital had an modified Rankin Scale score of 4 or 5. The average score of Functional Independence Measure at convalescent rehabilitation hospitals was 73.0 at the time of admission and 90.4 at the time of discharge with average stay of 78.9 days, and 66.5% of the patients returned home following convalescent rehabilitation. Future issues to be examined include the effectiveness of the path, satisfaction level of the users/patients and their families, facilitating collaboration between staff at different hospitals, and improving cooperation with primary care physicians.

Key words Stroke, Community liaison path, Medical liaison, Healthcare network

Introduction

In medical liaison of Kumamoto Prefecture, Japan, study group meetings of acute and convalescent



rehabilitation hospitals (called the “Meetings to consider cerebrovascular patients’ disabilities”) and other efforts over the last 14 years created an environment in which participants can fully

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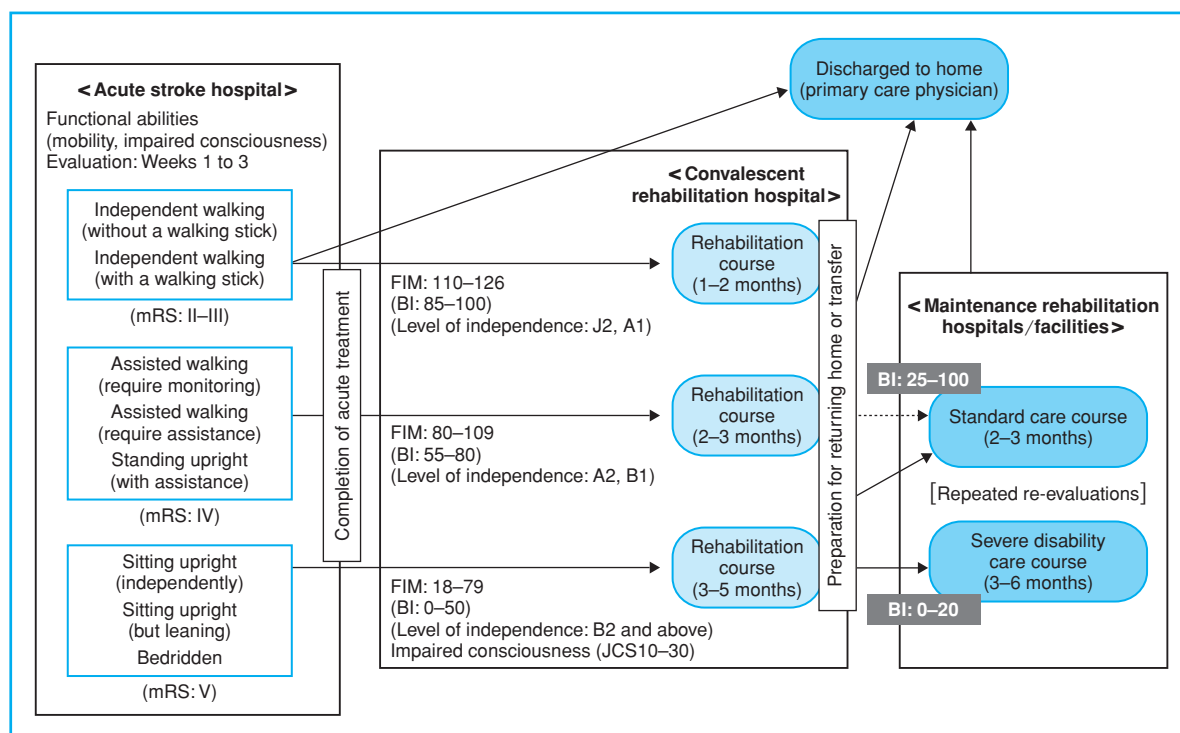


Fig. 1 Overview of the Kumamoto-style community liaison path for stroke (Kumamoto Prefecture, Japan)

identify each others' problems. Maintenance hospitals/facilities (including sanatoriums) also expressed a strong desire to join a community liaison path. Consequently, it made possible to consolidate various opinions on the basic concepts of the community liaison path for stroke in Kumamoto City and the surrounding regions, in which many hospitals and facilities participate.¹

Based upon basic concepts for a community liaison path for stroke proposed by Kurihara² and our opinions, we created the Community Liaison Path for Stroke (Kumamoto-style). In August 2007, the Kumamoto Stroke Liaison Network Study Group (hereinafter referred to as K-STREAM) was established to operate the path, to which 56 hospitals and facilities participated. The path has been in operation in almost all areas of Kumamoto Prefecture since April 2008.

Creating the Kumamoto-style Community Liaison Path: Concepts

A "community liaison path" is to present local residents with a comprehensive care plan from

onset of stroke to in-home care, including acute hospitals, convalescent rehabilitation hospitals, sanatoriums or maintenance hospitals, health-care facilities for the elderly, and clinics. A patient requires treatment of the disease (critical path) in the acute stage, a comprehensive rehabilitation plan (rehabilitation program) in the convalescent stage, and a care plan (rehabilitation management) in the maintenance stage. When connecting the acute, convalescent, and maintenance stages with one liaison path, a major issue is how to link different stages that have different targets. In Kumamoto Prefecture, a community liaison path was constructed using activities of daily living (ADL) and rehabilitation as the common language. Of course, the continuity of treatment between stages (preventing recurrence and managing comorbidities) was also deemed necessary.

One request from acute hospitals was to enable the use of in-hospital paths that were already in operation. Convalescent rehabilitation hospitals expressed many questions and opinions, such as: 1) types of paths in need, 2) standard length of hospital stay, and 3) whether or not Functional Independence Measure (FIM) should be used as

an evaluation method. Based on all inputs, K-STREAM summarized the basic concepts of the Wakayama-style liaison path as follows: 1) necessary and sufficient rehabilitation shall be available for any user/patient, 2) the path shall be available by any patient in any area of the prefecture, 3) goal-setting shall fully consider the patient's lifestyle at home, and 4) in-hospital path that is already in operation shall be used as is.

Coordinating hospitals and facilities of both acute and maintenance stages is essential in a community liaison path. The Wakayama path was constructed around convalescent rehabilitation hospitals for they play a core role in stroke treatment. Due to the diversity of clinical conditions in stroke cases, multiple types of liaison paths with different lengths of hospital stay were considered necessary. Moreover, because of the frequent occurrence of variance among stroke cases, application and operation of one standard community liaison path from the time of hospitalization at acute hospital was believed to be impossible. Thus, we focused on two points: 1) the path should be simple, emphasizing the ease of use in any area, and 2) treatment and rehabilitative care should flow continually while sharing information. Specifically, we attempted to have uniformity in certain aspects, such as hospital discharge standards, a number of courses, ADL evaluations that serve as an index for determining which rehabilitation courses patients should undergo, and lengths of rehabilitation courses. The path is to reset when a patient transfers to a next-stage hospital/facility (i.e., from the acute to convalescent stage or from convalescent to maintenance stage), enabling specific treatments and rehabilitation courses to be implemented in line with the internal paths of each hospital/facility.

Kumamoto-style Community Liaison Path: The reality³

Overview of the Kumamoto-style community liaison path for stroke (Fig. 1)

Each patient is placed in a rehabilitation course at convalescent rehabilitation hospitals/facilities according to the ADL assessment, based on the modified Rankin Scale (mRS) obtained during Weeks 1–3 at acute hospital or the Barthel Index (BI) or the examinations of correlations on FIM evaluations⁴ at the time of admission to con-

valescent rehabilitation hospital (**Fig. 1**). There are three rehabilitation courses of different lengths available to prepare patients to return home or transfer to another facility; the 1–2 months course is for those patients determined to be level II or III on the mRS at acute hospital, the 2–3 months course is for level IV patients, and level V patients often need to be in the 3–5 months course. When necessary, patients can switch courses at any time.

After discharge from convalescent rehabilitation hospital, many patients return home and the liaison path connects to their primary care physician. However, some patients are transferred to a maintenance hospital/facility for further care. In later cases, the patients receive the BI assessment before transferring, which attending physicians at convalescent rehabilitation hospital will use to select one of the two care courses at maintenance hospital/facility and to explain the future rehabilitation program to the patients before the transfer takes place. A similar explanation is also given to the patients after transfer. By providing explanations before and after the transfer, it provides insights on the future treatment to the patients and also gives the added merit of maintaining treatment continuity through sharing of policies between facilities.

Form “Community Liaison Path for Stroke (for medical/healthcare staff)”

The path created for each patient based on the overview (**Fig. 1**) consists of two core elements for medical/healthcare staff; “rehabilitation continuity” and “treatment continuity.”

Acute hospitals

Before transfer, one of three rehabilitation courses is tentatively selected using the mRS result for each patient. The patient receives explanations and is transferred to a convalescent rehabilitation hospital/facility in the path. Outcomes for the acute stage are set within the acute stage path (acute treatment is completed, and the patient's general condition is stable).

Convalescent rehabilitation hospitals

The FIM is assessed at the time of admission, and patients are assigned to one of the three rehabilitation courses based on the score (110–126 points, 1–2 months course; 80–109 points, 2–3 months course; and 18–79 points, 3–5 months course). Of course, it is possible to switch rehabilitation courses as necessary. Ordinary, a liaison

path is discontinued once variance occurs. Here, the path continues even with accidents by changing the course, as long as rehabilitation continues.

Maintenance hospitals/facilities (including sanatoriums)

In the case that a patient completes the convalescent rehabilitation but cannot be discharged home, the patient is transferred to a sanatorium or maintenance hospital/facility to receive further care. Patients with BI 25 or above undergo standard care courses, whereas those with BI 20 or below receive severe disability care courses. A patient condition is evaluated repeatedly every 3 months to formulate a care plan. When a patient is eventually found unsuitable to return home, an application for admission to a special long-term care facility will be made, which concludes the path.

In-home care

On the form, the date of discharge from hospital is entered, and the long-term care services appropriate for the patient are marked. The in-home care period lasts the longest, so the path focuses on preventing the reoccurrence of stroke and deterioration of ADL. In the case that a primary care physician cannot be found for a patient who desire in-home care, a request is made to the Kumamoto Home Doctor Network, a group of clinic physicians willing to perform home visits, and ask for referral to an in-home primary care physician and an assistant physician who can make home visits.

Continuance of treatment

In the Kumamoto-style liaison path, a treatment plan is coordinated from the acute stage through the maintenance stage in a continuous fashion. Coordinated treatment includes the instruction for PT-INR (the prothrombin time-international normalized ratio) to control warfarin administration, administration of antiplatelet drugs, and blood pressure management.

“Community Liaison Sheet for Stroke”

A “Community Liaison Sheet” is prepared for each patient to accompany the path as a report to be sent to the next hospital/facility when a patient is transferred. This sheet allows multi-directional use between stages; a typical flow is [acute → convalescent → maintenance], other possible flows include [acute → in-home care], [acute → maintenance], [acute → convalescent → in-home care], etc.

Form “Community Liaison Path for Stroke (for patients)”

A major purpose of a community liaison path is to provide a patient with an overall image of the treatment process from onset of stroke to in-home care. The “Community Liaison Path for Stroke (for patients)” form presents the path in easy-to-understand diagrams with extra space for explanations on certification of long-term care need, which a patient must be aware of when preparing for in-home care. This form is used to provide various explanations to patients throughout all stages.

Current Status of Operations

As of April 2008, K-STREAM is operating in a network covering virtually the entire Kumamoto Prefecture, with the member hospitals/facilities of 10 acute hospitals, 29 convalescent hospitals, 29 maintenance hospitals, 13 healthcare facilities for the elderly, and 36 clinics. Since April 2007, three liaison committee meetings have been held annually to exchange information concerning the Kumamoto-style community liaison plan, and hospitals and facilities throughout the prefecture participate in these meetings. Aiming to improve the treatment record for stroke and rehabilitation levels for the overall region, opinion exchanges and symposiums are held actively at these meetings regarding the coordination of efforts from the acute stage treatment through in-home care.

Registration of the Wakayama-style community liaison path took place between April 1 and September 30, 2008, and a survey was conducted of the 300 patients who had been transferred from acute hospitals to convalescent rehabilitation hospitals. The average length of hospital stay was 78.9 days (16.8 days in the acute stage, 62.1 days in the convalescent stage). Regarding ADL, before the transfer from acute hospital, 48% of patients had a mRS score of 4 or 5, with an average Functional Assessment of Daily Living* index of 6.5. At convalescent rehabilitation hospitals, the average scores of FIM, BI, and Functional Assessment of Daily Living at the time of admission were 73.0, 48.4, and 7.2 respectively, whereas the average scores at the time of discharge were 90.4, 65.4, and 4.9. The outcome at the time of discharge from convalescent rehabilitation hospitals was; 66.5% of patients returned home, 13.0% were transferred to sanatorium or

maintenance hospitals, and 4.5% entered long-term care facilities.

Issues and Future Directions

Issues concerning the operation of the Kumamoto-style community liaison path include: 1) the evaluation of results produced by the operation, 2) if the level of satisfaction of patients and their families improved, 3) whether or not the collaboration among staff at different hospitals was facilitated, 4) the strengthening cooperation with primary care physicians, and 5) the difficulty in collecting detailed data as the number of partici-

pating facilities increases.

With regard to future directions, the various occupation-based subcommittees involved in K-STREAM and the Kumamoto community liaison need to consider measures to address the above operational issues, as well as make efforts to diffuse the knowledge of the path to all regions of the prefecture so that it will be operated broadly as “patient-oriented paths” among users. It is expected that such efforts will provide a more accurate overall picture of stroke treatment at a community level and help us improve the stroke treatment and rehabilitation even more.

* A patient who is being admitted to a convalescent rehabilitation hospital/ward is required to have his/her ADL abilities evaluated based on the Functional Assessment of Daily Living Table (the Health Insurance Bureau Medical Economics Division Ordinance No.0305002, Ministry of Health, Labour and Welfare). The score ranges from 0 to 19 points; lower figures reflect higher level of independency.

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