Widen the range of self-management of drug administration, for example, from several times a day to once a day and once a week. Pass a check sheet to the patient and have him/her check each administration of drug. Utilize a calendar-type pocket case or drug container that allows the patient to separately store one dose of drug, thus to help him/her easily check drug administration.

Cash management:

Some patients spend as much money as they have. Discuss with the patient and the family how to manage cash so that the patient can use it systematically, and have the patient keep a cashbook with a fixed period and amount. Regularly check the cashbook and the balance in order to raise the patient's awareness of cash management and to help him/her become accustomed to doing so.

【Points to remember】

- In producing a calendar, take into account the following items in accordance with the patient's status.
  - ◇ Whether to prepare a weekly calendar or a daily calendar.
  - ◇ Whether a daily calendar should be written by the staff or by the patient.
  - ◇ Whether to have the patient put a checkmark in the calendar every time he/she completes a routine for the day in order to have him/her confirm what was done.

  Select a calendar that fits with the patient's current ability. In using it, cooperate with the involved staff to urge the patient to check the calendar so that the checking habit is established.
- The calendar and the notebook must be noticeable and simple. If possible, storing information in one place is advisable.
- Develop ways to help the patient to easily use the calendar/notebook while walking, easily find it and not forget it somewhere such as hanging it from the neck.

③ Increasing the social skills

Conduct outing exercises such as shopping, moving in an urban area, using a public transportation system, cooking or life-experience practice using a detached house in order to help the patient prepare for life in the community and achieve his/her future goal. Perform evaluation in real-life settings, providing feedback for any problem to the patient, and repeat the training.

- Evaluate and train the patient in problems with impairment concerning physical function and higher brain dysfunction.

【Points to remember】

■ Outing exercise

- Since this exercise contains many elements that require situation assessment and

applied skill in the situation, persons with higher brain dysfunction are usually weak at this exercise. First, specify a goal and a course, and then conduct the exercise stepwise. If the goal concerns a hobby or cultural activity, it could broaden the patient's life.

- Even if the patient can act in accordance with the predefined course, he/she may become unable to react to another duty or change that occurs halfway.
  Also understand such situations.
- If the settings that the patient will use in the future are determinate such as commuting to/from the workplace/facility, train the patient in the course and time slot that he/she will actually use in order to achieve practical realization.
- Even if the patient has difficulty in moving alone in a strange place or route, he/she may be able to act with almost no hesitation in a familiar place.

④ Increasing interpersonal skills

Group living in a facility serves as the opportunity for everyday life experience in a "pseudo-society," and such group living provides many benefits through performance of routines and interpersonal exchange. However, group living is also susceptible to interpersonal problems. Group living will provide the opportunity to deepen the patient's understanding of his/her impairment if objective information is provided as feedback to him/her on the scene.

If any problem occurs in a training scene or group living, explain the situation at the site of the problem and instruct him/her to correct the behavior or perform a desirable behavior (real feedback).

In addition, conduct a group program (group work) in order to have the patient gain interpersonal skills, etc. Strive to increase interpersonal skills through processes such as opinion exchanges or role allocation among members, planning, execution and reflection against the task.

【Points to remember】

■ About the group

- Carefully select members so that a group is formed.
- If possible, provide the result of performance to the members within the time frame of one activity.
- Proceed with tasks to be continuously performed while confirming the group's goal, currently addressed content and what was done last time every time the task is performed.

⑤ Self-recognition of the impairment

To achieve self-recognition of the impairment, have the patient experience as many

realities as possible, and provide feedback of the result of the experience to him/her. Possible means to perform this include the following:

- As described in the section "Interpersonal skills," provide real feedback through exercises and life scenes.
- Create the opportunity for the patient to think about his/her problem through opinion exchange between group members.
- Listen to talks of impaired persons living in the community.
- Have the patient experience operations using an occupational training scene in a simulated workplace.
- Provision of information of available social resources and a facility tour
- Conduct practice at a local workshop, sheltered workshop or ordinary company.

At a hospital, it is necessary to first explain to the patient the result of evaluation of higher brain dysfunction such as images and a neuropsychological test in an easy-to-understand manner. It appears that images (PET and SPECT, in particular) are easy to understand for the patient.

【Points to remember】

- When selecting a facility for the social resources tour and a facility for the practice, take into account the case's life base in the future.
- Concerning the result of the practice, the preference is that the staff at the facility communicates the result directly to the patient with attendance of his/her family.

⑥ Clarifying the required support

The content of the required support usually becomes clear in the process of self-recognition of the impairment or reality testing. However, in many cases, it is difficult to design a more effective and realistic life for the patient In such a case, the support staff should adjust the environment and prepare a social participation scene and a support system.

If there is a wide gap between the patient's recognition and the objective evaluation, attach importance to what is needed and proceed with examination as the first step before bridging the gap.

In some cases, even if the patient is reluctant and rejective to the content of the support or future direction, the patient adapts to the content/direction of the support relatively smoothly once the support is started. Actual experience is important also in this sense. In contrast, for some cases, the patient cannot adapt to the support as a result. In such cases, it is necessary to provide continuous support including working out of the problems and reconstruction of the support system.

【Clues to the support】

- In considering a support system, also take into account the use of informal social

resources such as friends, colleagues and volunteers. Conduct thoroughgoing orientation in advance. Utilization of these resources may serve as an instrument for the patient in acquiring interpersonal skills, gaining mental stability through good conversation partners and raising life motivation.

⑦ Support for the family

Even for the family, the fact that the family member became impaired is shocking, and it takes considerable time until they understand and accept the impairment. Therefore, it is necessary to provide support also for the family as with the patient in order to lighten their anxiety and the burden on them.

In addition, it is difficult for the patient to build and lead his/her life alone, and some form of support by others will be needed. To establish such a support system, the family's understanding of the impairment and their cooperation are essential.

Besides individual support for consultation and other requirements from the family, it is important to continuously provide information on the social resources, conduct study meetings and family get-togethers and introduce a patient group in the community.

【Points to remember】

- Support the family so that they are not isolated.
- Take into account the period from injury in providing support.
- Characteristics of families whose members have higher brain dysfunction include confusion and anxiety about the fact that behaviors significantly changed from injury; confusion about the mixture of almost unchanged matters after injury and those matters the person became unable to cope with; and the fact that many cases with cerebral trauma are relatively young people and therefore they feel huge uncertainty about the future and have great expectations for recovery. It is important to fully understand the feelings and positions of these individual families and provide careful support to them.

4. Outcome assessment

Evaluation (or assessment) is used to associate the acquired information with characteristics of an individual and predictively interpret the degree of achievement against the training goal. It is an essential process for formulating a rehabilitation program designed to help the patient increase his/her social life skills or adapt to social life by grasping the characteristics and problems of the person and examining intervention methods and possibilities of behavior modification.

Assessment concerning the social life-related difficulty in performing activities and participation is conducted in various aspects, such as sense of value of the individual,

diversity of impairment and interactive property with the environment. For training, the preference even for the facility is to set up a simulated training environment that assumes the place of the patient's activity and participation in society after he/she leaves the facility, while avoiding assessment of the ability level, and make adjustment with a realistic social environment before conducting training. Assessment is performed in three stages: early stage, mid-training stage and late training stage. Support staff expertise plays an important role in the judging and weighing for accurate interpretation of assessment.

In contrast, the major focus of measuring the effectiveness of training for daily living is on enhancement of the patient's ability required for everyday life and social activities and encouragement of him/her to adapt to social life based on the state of the impairment that still remains after medical rehabilitation. That is, by assessing how difficulties related to social life (social life skills) such as work skills, daily living skills and social activity skills improved after intervention of the training, you are able to measure a certain effect.

In addition, it is also useful to ask the user (including the family) to comment on the quality of the services when he/she leaves the facility. Items in their comments include good things and bad things of using the facility, achievement of the purpose for using the facility, effectiveness of the training menu and the staff's work.

Furthermore, you must also attach importance to evaluation of the process in addition to evaluation of the achievement. It is desirable to sum up the user's satisfaction and achievement as its fruit in improvement of the difficulties related to social life described above, satisfaction of the user, and the service provision system. The indicator of achievement is comprehensive goal achievement including accurate process assessment ranging from satisfaction of the user to consciousness of the service provider and expertise.

5. Others

Support for community transition:

Long-term, comprehensive support is required for persons with higher brain dysfunction.

In the transition to the community, after gaining the consent of the patient and the family, it is necessary to provide written information to the involved organizations about the impairment characteristics and behavioral characteristics of the patient and the support method so that the organizations will correctly understand the impairment and appropriately manage the situation. In addition, depending on the circumstances, the involved staff should hold a support staff meeting to adjust the direction and content of future support and ensure continuity of support.

III Vocational Training Program

1. What are vocational training and vocational rehabilitation?

Vocational training includes preparatory training and vocational skills training. Even for persons whose periods from injury/onset are short, work-focused training may be conducted at hospitals or facilities. This is called prevocational training, and it overlaps with the previously mentioned medical rehab program and training for daily living. In addition, the whole vocational training including part of employment assistance is called vocational rehabilitation in a broad sense although it digresses from the definition of training.

2. Purpose of vocational rehabilitation for persons with higher brain dysfunction

Many of the problems that persons with higher brain dysfunction have in workplaces are based on the gap between "appearance" and "work they can actually perform," such as "although they have few functional impairments and seem to be able to do anything, they make a lot of mistakes once they are given a job."

Therefore, it is considered effective to provide services with the following purposes.

1. Clarify the vocational problems such as duties that can be performed and adaptability.
2. Encourage the patient to recognize his/her disability from the aspect of work and acquire compensatory behaviors.
3. Then, select a job appropriate for the patient, and establish an environment in the workplace to achieve stable employment.

3. Stages of vocational training

- The road for persons with higher brain dysfunction to the workplace generally flows as follows: injury/onset → medical treatment in the acute phase → rehab medical treatment/training (recognition evaluation/training, prevocational training) → (training for daily living) → vocational training (work preparation training, vocational training) → employment assistance (transition support, settlement support).

The prevocational training is performed before work preparation and may be conducted from the acute phase. The subjects include cases that do not have a clear hope for future, cases whose hope is greatly different from the actual ability, cases whom functional training is given priority, and cases whom cognitive training is tested in work scenes. In the meantime, cases whose symptoms are mild or significantly recovered during admittance and preparation for employment is mostly made are also included. This training is the first step of vocational rehabilitation for patients who were impaired in an illness or accident, and mainly consists of basic evaluation and training for work life. The prevocational training covers a broad range of life stages, from the acute phase to the subacute phase and to the stable phase of medical rehabilitation.

- At the stage of work training, it is important to work on the training with a sense of purpose for utilization of a compensatory means so that the patient becomes able to pay attention to his/her higher brain dysfunction and understands the need of vocational training.
- At the stage of employment assistance, the preference is that the patient becomes able to understand his/her impairment and has the clear intention to work and the training conducted as necessary and the basic cognitive training are almost complete.

4. Actual state of vocational rehabilitation

Points of evaluation are: ① taking into account the hierarchical structure of work life and ② grasping and confirming personal information.

① Hierarchical structure of work life

Working has a hierarchical structure in which life lies as the base, on which the "working ability" to rightly commute every day is placed, on which the "adaptability" to human relationships, etc. at the workplace is built, and on which the "task executing ability" to perform a certain level of work is placed. When managing vocational rehabilitation, it is necessary to consider such a hierarchical structure in addition to the aspect of executive performance, to which you tend to pay most attention.

② Items to be checked in evaluation

◇ Personal information

- The subject has an employment need, necessity for vocational training, etc.
- Employment need: grasp the difference with demand, specific need, etc.
- General information: basic information such as career, home status and economic situation
- Impairment state, employment-related information: it is important to check the status in past employment if the patient used to work after injury, and check the status and measure the effectiveness in the process of training and support in monitoring.

- In some cases, the patient is not covered by the vocational rehabilitation as a result of evaluation.

◇ Items to be studied

- Select effective training/support methods (content and technique), appropriate training/support facility/organization

[Special affairs]

In conducting evaluation, pay attention to the following:

<Characteristics of the disability>

- What kind of task the patient can perform.
- What the level of the processing capacity is.
- Environmental factors

<Importance of disability recognition>
<Effective training/support>

- Simulate work life
- Face reality, provide appropriate advice

<Importance of home life>
<Having a long-term view>
<Utilization of a social welfare and medical insurance system>

Formulating a vocational rehabilitation plan

In formulating a vocational rehabilitation plan (training plan), determine the goal and period with consent of the patient and the family based on the evaluation.

Many of the chief complaints of persons with higher brain dysfunction are unrealistic. If you cannot gain understanding of the patient, do not flatly deny his/her chief complaint, but listen to it as a "long-term goal" and the person in-charge prepares a feasible "short-term goal" after gaining consent of the patient.

The vocational rehabilitation plan should be formulated in an easy-to-understand manner.

Prevocational training

The prevocational training is conducted prior to work preparation, and may be used as training from the acute phase. That is, it can be a type of training with vocational content conducted in a medical rehabilitation. For cases that were impaired in illnesses or accidents, the prevocational training is the first step of a vocational rehabilitation, and mainly consists of basic evaluation and training for work life. The prevocational training may cover a broad range of stages from the acute phase to the subacute phase and to the stable phase of the medical rehab programs.

In principle, you perform the same evaluation and training as the one used in the medical rehabilitation. The educational materials and skills are more related to vocational training.

Work preparation training

(1) Purpose of the work preparation training

The purpose of the work preparation training is to establish an environment with the concept of "simulated workplace" = "workplace," and evaluate or develop the ability required for reinstatement of work or new employment.

As described in the preceding paragraph, the person in charge of the training formulates a training plan with patient consent based on the evaluation and prevocational evaluation to organize vocational need before conducting the work preparation training.

<Points to remember>

① Perform actual training exercise and organize existing problems (what you can do, cannot do).
② Confirm the patient's awareness (thinking) of the work ⇒ grasp the gap with impairment recognition.
③ Prepare an environment through ① and ② and have the patient acquire compensatory behavior.
④ Identify and improve the operation ability (acquisition of compensatory behavior).
⑤ Identify and improve the adaptability (acquisition of compensatory behavior).
⑥ Establish a work life style (especially for new employees, persons with no work experience).
⑦ Establish a specific direction of work.

(2) Problems related to task execution

Higher brain dysfunction frequently accompanies decreased judgment and executive function. Cognitive impairment creates jobs that can be executed and those difficult to execute. It is important for both the client and the staff to know exactly what level of quality and what kind of duty/task will "pass as work" in work preparation training.

【Points】

Study the following items.

- Analysis of the task setting
- Level of the task setting
- Actual experience and appropriate advice
- Acquisition of a coping method and consideration by the surrounding persons
- Importance of recording
- Importance of behavioral observation

<Points to remember>

- Grasping the ability of the person with higher brain dysfunction
- Necessary to control information
- Necessary to assess
- Trust relationship is premised

Problems likely to arise in persons with higher brain dysfunction and measures to cope with them

This section describes problems related to task execution of persons with higher brain dysfunction frequently observed at workplaces and measures to cope with them. The staff should grasp "tasks that the client can perform" and grasp what kind of environmental setting (e.g., coping measures, consideration by colleagues) will increase the working capacity

and stabilize the work life.

<Problems related to information processing>

- Attention mistakes do not decrease in checking task
  - Increase reliability through a measure such as using a scale to check the performance and putting a check mark on each line.
- Mistakes will increase if speed and accuracy are both required
  - Make the client aware that work requires both speed and accuracy, and then have the client repeat the operation to check how the performance improves.
- If there are multiple points of attention, the client cannot perform the task
  - Problems such as displacement due to attention only paid to punching in the filing operation and forgetting something when performing complex photocopying (large size printing, duplex printings, etc.) frequently occur. In such a case, it is preferable to have the patient learn the method for coping with the problem by making him/her aware that he/she became weak at paying attention to multiple things simultaneously, and have him/her write down each point to be checked in advance and check one by one when performing the operation.
- Low efficiency and poor idea/judging
  - Unable to place a part in a position where the client can easily reach it, unable to place the instruction sheet in a place where the client can easily sees it, etc. Since the client is weak at "ideas" and "judging," grasp to what degree he/she is able to do so, and encourage him/her to recognize his/her weakness, thus to study a method for coping with the problem. It is safe to avoid letting the client perform the operation unless there is a reliable coping method.
- Becomes confused if multiple instructions are given at the same time or instructions are given by multiple persons
  - For the former, encourage the client learn to tell the instructor: "give the instructions one by one" or "I will take a memo, so speak slowly." For the latter, make him/her aware that he/she is not good at receiving instructions from multiple persons rather than from one person and it is necessary to ask the staff to give him/her instructions from one person, if no improvement is made.
- Unable to make priorities or arrangements
  - Make the client aware that he/she became weak at performing operations when sequences are not determined. Then, study a method that allows the client to easily check the sequence.

<Problems related to memory>

- Unable to utilize memos even if the client writes them
  - Using memos in work requires the ability to write a necessary note → see it when necessary → use it appropriately. The required ability is higher than that for a schedule book. As a measure to cope with the problem: 1) use a separate notebook

for schedule, and another for business notebook for training, and then 2) affix indexes for different training menus in the business notebook such as "Operations," "Clerical" and "PC" to clarify where to write memos. With this method, assess the degree of practicality.

- Taking a thing as something else and doing the wrong thing

- Always provide feedback "Halfway memory disturbs work" to the client, and have him/her thoroughly follow the rules "Carefully listen to instructions" and "Take memos." In principle, instructions to persons with higher brain dysfunction should be "simple" and "specific." However, if the instruction is insufficient, attach more importance to special care (detailed instruction). If there is still a problem, use measures such as handing a memo to the client and having the staff write in a notebook.

- Making a mistake without seeing the instruction sheet

- Urge the client to recognize the memory problem by always feeding back "Dependence on memory disturbs work" and "Be sure to see the instruction sheet" to him/her, and then have him/her become accustomed to using instruction sheets. If the client does not see the instruction sheet, measures include placing an indication plate written with the operation sequence, and directly affixing the procedure on the machine.

- Operation sequence or content changes halfway

- Give feedback to the client every time change occurs to deepen his/her understanding, and repeat that until the procedure is established. If the cause is complexity of the operation, consider using the instruction sheet or segmentalizing the process.

- Unsure about whether to resume work after a break such as lunch, or mixed up with done and in process

- For the former, measures include: 1) have the client learn to see the memo before starting, 2) affix a Post-it memo written "Finished here" on the task if the memo-checking is not established, and 3) post a paper sheet indicating "From ledger production in afternoon," etc. in a place where the client can see it easily such as on the desk if he/she forgets the task itself. For the latter, use an indication plate that shows "Done" or "In process" to let the client clearly know the present state. In either case, the practicality varies depending on whether special care is needed.

(3) Problems related to adaptability

Many client with higher brain dysfunction are unable to smoothly build interpersonal relationships due to social behavioral impairment (dependence, regression, decreased emotional/desire control, etc.) among other characteristics of this disorder. In addition, there are cases that have difficulty in continuing work as a result of inability to faithfully execute instructions from the supervisor or reporting to the supervisor due to his/her impairment such as memory problem, attention problem and executive dysfunction.

【Points】

- Make the client aware that environmental adaptability is important for work.
- Have the client understand the task through behavioral analysis by the surrounding persons.
- Provide direct remarks in order to have the client realistically grasp the problem.
- Address the task after sorting out how to improve the problem.

<Points to remember>

- Grasp the ability of the person with higher brain dysfunction
- Necessary to control information
- Necessary to assess
- Trust relationship is premised

Vocational training (skills training)

The category of vocational training includes vocational skills training. Persons with higher brain dysfunction naturally include those who desire to acquire certain skills or hope to become employed if they acquire skills. There are many persons with higher brain dysfunction who want to learn the personal computer (hereinafter "PC") in order to find jobs. However, it is likely that acquisition of PC skills will have an adverse effect unless the characteristics of the impairment concerning the work ability of persons with higher brain dysfunction are known. In fact, in many instances the PC skills of persons with higher brain dysfunction are not acceptable although they are employed for PC-related jobs because they graduated from PC vocational schools.

【Points】

- Work ability of persons with higher brain dysfunction
- Since operation of Windows requires skills that persons with higher brain dysfunction are not good at depending on the type of operation, in many cases they are unable to fully utilize the operating system.
- Assessment of the level of PC operation
- Attaching importance to basic response to persons with higher brain dysfunction

For vocational training, if the skills required for persons with higher brain dysfunction are higher than their abilities, they frequently have difficulty utilizing or applying those skills even though they are able to use part of those skills or acquire them as their own skills. In particular, computer-related businesses mostly require skills that persons with higher brain dysfunction are weak at as described above. Therefore, task analysis of the implemented exercises is more important.

5. Employment assistance

What is employment assistance?

Employment forms of the persons with disabilities include "ordinary employment," "working at home," "protected employment" and "welfare-type employment."

Employment assistance at hospitals

(a) If the case has a position in the workplace

Specific assistance efforts for reinstatement are as follows.

Vocational evaluation and organization of information

- Family status
- Place of residence
- Action of the case toward employment (observation)
- Physical impairment (confirm the state through documents and interview)
- Higher brain dysfunction (neuropsychological findings, screening test)
- Task endurance (task evaluation)
- Task executing ability (task evaluation)
- Mobility (physical aspect, higher brain aspect)

Confirming the intension of the case and assistant

- Will to work
- Counseling for reinstatement

Collection of workplace information

- Intension of the office concerning reinstatement
- Contact at the office for reinstatement adjustment, industrial physician
- Leave of absence, leave compensation (accident and sickness benefits, paid leave)
- Possibility of decruitment
- Possibility of job creation for the client
- Content of job at the workplace and duties of the client
- Working environment (physical, mental)
- Possibility of providing duties at the office for training
- Possibility of workplace training

Provision of information to the workplace

- Intension of the client and the family for reinstatement
- Explanation of the higher brain dysfunction of the client
- Necessity of understanding of the impairment, consideration and compensatory means
- Subsidiary systems
- Advice on improvement of the workplace
- Follow-up

Workplace training

- Training planning (period, time slot, place, training content, key person, commute route)
- Training contract, insurance
- Checking with the workplace training evaluation sheet
- Summary of the training and reporting of the result
- Conduct re-training as necessary

Reinstatement, settlement guidance and follow-up

- If any problem arises, allocate roles between the parties involved to resolve it.
- The follow-up period will be determined at each implementing organization.

(b) If the client intends to have a new job

Confirm the intension from the client and the family. Make a decision for employment after vocational evaluation and information organization. Register the client at a job-placement office. Also seek possibilities through such means as participation in group career counseling, recruitment magazines, newspaper flyers and the Internet.

The purpose of experimental training at the office is to evaluate the client and does not assume his/her employment. Subsequently, provide support for workplace training, reinstatement, settlement guidance and follow-up.

(c) If it is difficult to have an ordinary job

If it seems difficult to find an ordinary job in the present state, there is the option of aiming at ordinary employment via welfare-type employment.

Employment assistance at a welfare facility

Regional rehabilitation centers/facilities that have vocational training departments or sheltered workshop actively supporting career development also provide employment assistance given these. Employment assistance provided at welfare facilities is as follows:

Welfare facilities provide employment assistance for persons with higher brain dysfunction for new employment or reinstatement. However, their assistance tends to become unstable even if a slight environmental change occurs. Their assistance includes transition support related to new employment or reinstatement based on duties that the case can perform and settlement support as follow-up.

6. Outcome assessment

The purpose of evaluating outcome of vocational rehabilitation is to measure how the status improved or changed after intervention of training or support (including during the training or support period). It enables the service providers to formulate the next plan if the vocational rehab plan is to be modified or proceed to a next stage. In addition, outcome evaluation also serves to evaluate the appropriateness of training or support technique by the service provider in addition to measuring change in the case.

【Points of **outcome assessment** 】

Employment of persons with higher brain dysfunction tends to raise problems resulting from the gap between "appearance" and the "actual ability." The most important factor of vocational rehabilitation for persons with higher brain dysfunction in the training stage is the viewpoint of clarifying: ① the degree of vocational preparedness such as task executing ability and adaptability, and ② the degree of impairment recognition.

「リハビリテーション」の、これが適切な方法です

統合失調症の認知障害との比較から

先崎　章
埼玉県総合リハビリテーションセンター神経科・医長

1 高次脳機能障害がなぜ注目されるのか

精神科では昔から高次脳機能障害者を治療、看護してきた

昨今話題になっている（行政上の）高次脳機能障害とは、交通事故などによる脳外傷や、前交通動脈瘤破裂によるくも膜下出血、心停止蘇生後の低酸素脳症、脳炎など、脳神経の損傷による心理・行動上の障害を広く指します。統合失調症とは違って、MRIやCTで目に見える脳神経の損傷があり、その神経（回路）損傷に由来する行動上の変化があることから、神経行動障害などともいわれます。

このような患者は、行動や情動の障害が著しい場合には昔から精神科の対象でした。精神科病院の看護者ならたいてい、ヘルペス脳炎後遺症により著しい記銘力障害（5分前の出来事も頭に残らず忘却する）と情動障害（突然怒りのスイッチが入ると抑制がきかず興奮し、暴力をふるって保護室に隔離せざるを得ない）によって、家庭や施設での生活が困難な患者を経験しているはずです。

また、粗暴行為を繰り返す人や、社会道徳から大きく外れたことを行なった人が措置入院になり、精神鑑定を受ける際に、過去の脳挫傷の既往が明らかになることがあります。

せんざきあきら◎臨床医であることを信念に卒後すぐに都立病院で研修。その後20年間、総合病院精神科、大学病院精神科、精神科病院、クリニック、福祉施設にて、ハード救急からリハビリテーション（身体疾患のリハビリテーションを含む）まで、あらゆる場面での臨床経験を重ねてきた（ことがわたしのプライドを支えています）。
●埼玉県総合リハビリテーションセンター
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高次脳機能障害と認知症はここが違う

従来から精神科では、進行性の認知症（dementia）の高齢患者を扱ってきました。認知症は、月単位、年単位で少しずつすすんでいく高次脳機能障害ともいえます。認知症の具体的な症状は、

①失語（言葉のわからない国に迷い込んだ状態）
②失行（手足の麻痺がないのに動作ができない状態。ドアが開けられないなど）
③失認（知っているはずの物を見てもそれが何かわからない状態。大好物だったリンゴを見ても食べ

るものであるとわからない)

などであり、医療者はこうした症状をみつけ、アルツハイマー型認知症や脳血管障害型認知症と診断して、看護してきました。

それでは、(行政上の)高次脳機能障害の患者は、認知症の患者とどう違うのでしょうか?

高次脳機能障害の患者は、記憶や全般性の注意、情動以外の部分は正常に近く、その場その場での本人の対応は一見まともで、ちょっと会って話をする程度では障害がわかりません。極端な場合には3分前の出来事の記憶は全く残らないのに、近所の人の挨拶への返答は、それまでの習慣で「こんにちは、あいかわらずお元気そうですね」と表情よく自然に言えます。計算も普通にできて、知能テストをするとIQ 100以上という場合も珍しくはありません。この場合、本人はなんでも自分でできると思っていますが、例えば買い物に出ても、店に入ったら何で自分が店にいるのかわからなくなるので、事前にメモをしておかないといけません。

また、前頭葉の前頭前野(額のすぐ内側の部分で、脳外傷で一番ダメージを受ける部分)に損傷がある人では、記憶力や知能は正常なのに、複数の事柄を同時に処理できない(例えば、聞き取り理解しながら同時にそれを書き取ることができない、2品の料理を同時につくることができない)、あるいは臨機応変に注意や判断の切り替えができない(例えば、お湯を沸かしているとき不意に来客があった場合に、火をいったん止めておくといったとっさの動作ができない)といった不可解な特徴を示します。

また認知症と違うのは、機能障害それ自体は悪化しないことです。事故・病前のレベルには戻れないにせよ、例えば記銘力障害なら、受傷・発症後半年までは急速に回復します。その後改善の度合いは鈍くなりもとのレベルまでには戻りませんが、1年〜1年半程度まではわずかずつですがよくなっていきます。認知症と違って改善がみられるのです。

そして、二次的な精神科的問題(後述)が生じるのを予防し、適応的なふるまい(例えば、メモリーノートや日記をつけて見直すなど。これも後述)を身につければ、たとえ機能障害が固定したあと、すなわち受傷・発症後数年経っていたとしても、日常生活能力は向上していきます。

障害をかかえて生活する人が増えている

昨今の救命蘇生医療の発達(低体温療法、心肺補助装置による補助循環)や脳外科医療(迅速な画像診断、脳組織を守る減圧開頭)の発達によって、従来なら死亡していた人が救命されるようになりました。

しかし、脳細胞、なかでも記憶の中枢である海馬細胞は(脳血腫や浮腫などによる)脳血流の低下や酸素供給の低下により非常にダメージを受けやすく、治療でその機能を復活させるのが困難な場所です。よって、前頭葉前頭前野や海馬細胞が破壊されたために、記憶障害、注意障害、遂行機能障害、社会的行動障害などをかかえ、その後の人生を送らなければならない人が増加してきました。

そしてオートバイなどの交通事故による脳外傷者の場合は若年者が多いのですが、彼らは介護保険が使えません(65歳未満の場合には、40歳以上でかつ加齢により生じる疾患でのみしか使えないため)。また身体障害者(麻痺や著しい失調がないと該当しない)、知的障害者(18歳未満の段階で知能低下がみられていたことが必要)の福祉サービスも利用できず、家族の介護疲労は深刻でした。

高次脳機能障害を精神障害として扱うようになった

身体麻痺がなければ、救急搬送された患者は脳神経外科から直接自宅に退院します。意識障害時に長時間臥床していたことにより廃用が生じたり、麻痺や失調により歩行できない場合には、リハビリテーション科が対応します。すなわち精神科以外の科

で、高次脳障害をもつ患者を診ていたのです。

このような患者さんを多く受け入れていた名古屋市立、および神奈川県立のリハビリテーション病院に通院している患者の家族らが中心になって、平成8年に家族会が発足しました。そして、医学的・福祉的対応の充実を厚生労働省に要望してきました。こうして2001年にはじまった高次脳機能障害支援モデル事業において、やっと全国11か所の拠点病院で、若年の脳外傷者を中心とした実態が調査されました。

その結果、支援対策を推進する観点から、それまでは"学問的"に、脳の局所の損傷により生じる失語・失行・失認に限定されていた高次脳機能障害という用語を"行政的"に広くとらえ直し、記憶障害、注意障害、遂行機能障害、社会的行動障害などの一群の認知障害も高次脳機能障害に含め、支援することと定められました。2004年のことです。

しかし高次脳機能障害者専門の福祉サービスを創設することは財政上困難なため、従来の「精神障害者」の範疇として取り扱うよう、行政的に決められたのです。そして2006年から、都道府県ごとの拠点病院をさらに増やし、支援コーディネーターを都道府県単位で2名程度配置し、自立支援法下に支援の普及を図ることになったのです。

精神障害者通所施設が感じる受け入れの困難さ

そのため、精神障害者の医療・福祉サービスの分野で、高次脳機能障害者への対応が求められるようになりました。統合失調症者を主たる対象としてこれまでやってきた現場、特に地域作業所やデイケアでは、それまで対応したことがなかった高次脳機能障害とはどのようなもので、どう対応すればよいのかに関心を寄せるようになりました。また同時に、ぎりぎりの数のスタッフで運営している現状で、果たして対応ができるのかという不安がもち上がりました。

例えば、埼玉県内の精神障害者小規模作業所へのアンケート(連絡会代表、荻礼子氏らにより2005年1月と2007年9月に実施、それぞれ52施設、41施設より回答)によれば、2005年初の時点で「高次脳機能障害者を受け入れた経験がある」施設はすでに33%にのぼっていました[*1]。また「高次脳機能障害について知っている」63%→85%(2005年→2007年)、「ニーズがあれば受け入れ可能」17%→27%(同)と増加していました。その一方で、「ニーズがあっても受け入れは困難」という回答も39%→59%(同)と増加しました。これは高次脳機能障害について、地域の現場の多くが関心をもち、一部では受け入れて試行錯誤してきたものの、対応が難しいと考える施設が多くなってきたことを示しています。

この2007年実施のアンケートの自由記述から、高次脳機能障害者の対応で困難と感じた点を筆者がまとめたものを**表1**にあげます。( )内の赤字は

表1　高次脳機能障害者への対応で困難と感じる点

(精神障害者小規模作業所職員の意見を筆者が補足しまとめたもの)

(1) (記銘力障害があり)経験が積み重なっていかない。対応が徒労に終わる。

(2) (注意障害があり)疲れやすく課題が続かない。

(3) (実行機能障害・遂行機能障害があり)自分で行動できない。指導に手間がかかる。

(4) (辺縁系の損傷を伴っていて)易怒性・突然の攻撃性がみられる。周囲と齟齬が生じる。

(5) (気づきの低下、自己モニタリングの低下があり)上記1〜4の自覚がない。

(6) (事故前・病前は社会適応がよかったが故に自尊心があり、自身の機能低下や機能に合った)環境を受け入れられない。居場所の確保レベルの対応では家族も満足できない。

(7) (機能障害の様相がさまざまで)個別の援助が必要である。マンツーマンの対応が必要である。

筆者が専門用語で補足したものです。基本的にはこの表1に示した点が、地域作業所にとどまらず、急性期以後の病院での看護、あるいは在宅看護、保健センター、支援センターでの相談においても問題になる事柄です。

2 彼らはどんな問題をかかえているのか

入院中は高次脳機能障害の影響が目に見えない

高次脳機能障害といっても、発症からの経過時間や患者さんの脳損傷部位によってその症状はさまざまです。意識障害からの回復の過程では自分にどのようなことが起こり、なぜ医療を受けているのかが認識できず、しばしば興奮して処置や指示を受け入れないので、抑制や抗精神病薬による鎮静が必要です。このような急性期から回復期初期の段階では、問題行動が意識障害によるものなのか、記憶に障害があるからなのか、情動の回路が障害されているからなのかがわかりません。

また、日常生活動作一般すべてにわたって看護者が声かけ、誘導、実行までを見守り、介助してくれる病棟生活では、自分で物事を行なっていく遂行機能が低下していても、はっきり目に見える形としては現れてきません。自宅に戻ってから家族が気づく、あるいは復職してから同僚が気づくことになります。

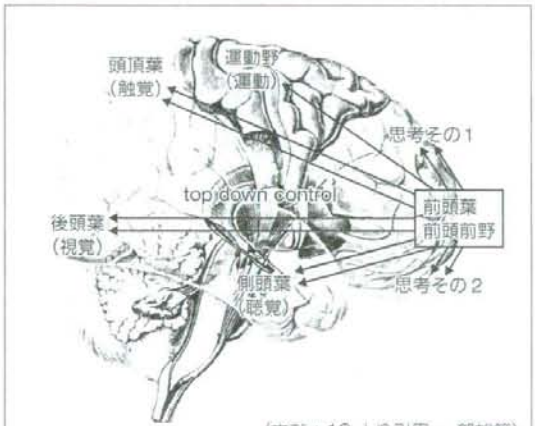
一次的な症状は脳損傷部位に由来している

一般に高次脳機能障害者では、発症から経過した時間の違いや症状、重症度によって差はありますが、表1にあげた症状がみられます。

(1)記銘力障害が生じるのは、前述のように海馬細胞は酸素がないとすぐに死んでしまうからです。また前交通動脈瘤破裂では、発症数日以内に引き続き起こる脳動脈血管の連縮によって前脳基底部に血液がいかず損傷し、やはり記憶回路の正常なはたらきが損なわれるからです。

(2)全般性の注意障害もよくみられます。聴覚(側頭葉)、視覚(後頭葉)、触覚(頭頂葉)といった感覚野は、図1のように前頭前野が指令塔です。ここで必要な情報に絞り込んだり切り替えたり調節したりしています(top down control)。脳外傷ではどの部位を打撲しても、加速力によって前頭骨部内側に位置する前頭葉(前頭前野)が損傷されます。指令塔が壊れた結果、注意を配分したり注意や思考を絞り込んだり、転換することが苦手になります。同時に複数の物事を処理することができなくなります。

図1 前頭葉・前頭前野が損傷されると……



(文献＊12より引用、一部加筆)

前頭葉の前頭前野は外界の知覚の絞り込みや思考の切り替えを行なう指令塔である。ここが損傷されると知覚の絞り込みや考えの切り替えができず、注意力・集中力が低下する。なお、運動野から延髄(錐体)を通り、筋肉へ指令を伝える運動神経の経路を「錐体路」といい、ここが損傷されると麻痺が生じ随意運動が障害される。それ以外の広汎な部分が損傷されても麻痺は生じないが、これが高次脳機能障害となりうる。

(3)遂行機能障害は前頭葉、なかでも背外側部(こめかみよりちょっと前の部分)の障害として知られていますが、これは前頭葉と神経連絡のあるどの部分の損傷でも生じます。

さらに情動を調節する大脳の辺縁系回路が損傷されると(4)情動障害がよくみられます。

(5)気づきの低下、自覚のなさ(=自己モニタリングの欠如)は前頭前野の損傷によると考えられます。

(1)～(5)のどれか1つが目立っているタイプ、(1)～(5)のどれもが少しずつあるタイプといろいろです。そして表1にある高次脳機能障害による症状は、損傷した脳部位に対応するものなのです。脳の器質的な変化に由来していて確固たるものがあります。もし症状に波があるとすれば、記憶障害や注意力障害をカバーするために過度の緊張が必要とされ、非常に疲れやすく、疲労しているときとそうでないときとは表情や態度が違うことによります。あるいは急に怒ったり機嫌が悪くなったりするので、外からは波があるように見えます。

この点で統合失調症と比較すると、統合失調症は形の異常(器質的な変化)というよりははたらきの異常(脳の機能的な変化)に由来する各種症状であり(精度の高いMRIでみれば統合失調症であっても器質的な変化はあることが最近知られてきてはいますが)、それだけ変化しやすい脆弱な面があります。

症状は互いにからみあい、階層を成している

高次脳機能障害の症状は1つ1つ独立してあるのではなく、それぞれがからみあっています。また、図2のように階層があります*2。

すなわち「注意力」が土台にあり注意が保てることで、「情報処理」や「記憶」や「遂行機能」が発揮できます。また注意力はさらにその土台となっている「発動性」や「覚醒」、「心的エネルギー」が十分でないと保たれません。このことは皆さんでも、眠くてぼーっとしていると試験勉強や趣味の活動がまならないことで想像できると思います。

図2 神経心理ピラミッド

ニューヨーク大学医療センター脳損傷者通院プログラムでBen-Yishayらが用いている図 (文献*2より引用、一部改変)

よく問題になる「自己の(障害の)気づき」は最上位に位置していますので、記憶や遂行機能に支えられた「論理的思考」がある程度なされないと十分には発揮されません。

したがって、(情動の変調やその場限りの快不快に流されずに)論理的に考えたり自己の気づきを得ることを最終的なリハビリの目標にするにしても、土台である記憶のトレーニング(実際は、記憶障害を補う代償手段を取り入れる=メモを取り、見直す)や注意・集中力を高める工夫(=疲れたら休む、1つ1つ行なうなど)、さらには適度な覚醒レベルを得る(=規則正しい生活をして夜ふかしをしないなど)、あるいは興奮しないような環境設定(=能力を超えたものを求めない、必要以上に咎めたり注意しない、興奮したらその場から離れる、火に油を注がないなど)、投薬による抑制(=刺激に対する過敏さの程度がほどよいものである)が必要となるのです。