Activities of the Japan Medical Association in the Fight against Infectious Diseases

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Abstract
The Japan Medical Association has set up the Risk Management Task Force on Infectious Diseases to help counter infectious diseases. The Infectious Diseases Risk Management Committee, which includes experts in infectious diseases, and the Infectious Diseases Risk Management Conference, consisting of representatives of prefectural medical associations from throughout the country, were organized to discuss issues related to infectious diseases, including measures against severe acute respiratory syndrome (SARS) and measures against large-scale infectious diseases.

Specific activities aimed at providing information on infectious diseases include publication of guidelines for the diagnosis and treatment of infectious diseases for physicians, under the supervision of JMA and the Ministry of Health, Labor and Welfare, in addition to materials in question-and-answer format that deal with influenza, hepatitis C, and hepatitis B, to alert member physicians.

For the general public, JMA has been providing “open lectures for citizens” that are telecast on NHK-TV, and has developed handbooks such as “A Handbook Companion to Traveling Abroad” and the “Animal-borne Infectious Diseases Handbook” as well as campaign posters and pamphlets concerning prophylactic vaccination for influenza, tuberculosis, rubella, and measles.

In addition, “children’s preventive vaccination week,” a campaign scheduled for March 1 to March 7, was initiated in 2004 and will be held annually to improve regular vaccination rates.

Key words  Risk management, Infectious diseases, Preventive vaccination, SARS

Establishment of the Risk Management Task Force on Infectious Diseases
Based on the increasing importance of measures to counter emerging infectious diseases such as AIDS and Ebola hemorrhagic fever, for which no decisive treatment has been established; the re-emergence of infectious diseases such as tuberculosis and malaria; and the fact that many lives have been lost as a result of epidemics of enterohemorrhagic Escherichia coli (O157) infection and influenza, the Japan Medical Association (JMA) established the Risk Management Task Force on Infectious Diseases (the Task Force) within the organization on January 21, 1997.

The specific activities of this Task Force include the following:
(1) Promotion of preventive activities including prompt provision of the latest information on infectious diseases.
(2) Provision of information regarding the diagnosis and treatment of infectious diseases, under the guidance and advice of experts in the field.

(3) In the case of occurrence of infectious diseases with critical properties, implementation of risk management including prompt provision of information regarding the infection’s occurrence, the methods of diagnosis and treatment, and the establishment of a support system.

(4) Timely collection of information about the occurrence of infectious diseases in local areas, using the Internet and other sources of information.

**Preparation of Information Provision Network**

A network that will quickly provide all JMA members and general public with information about infectious diseases has been organized, with the Task Force playing the central role.

(1) In order to promote the bidirectional exchange of information with prefectural medical associations, each association was requested to designate an officer in charge, and a list of these designees was drawn up in order to construct a round-the-clock system of cooperative action using cellular phones and other means of communication. Information sent from JMA to the prefectural medical associations is then sent to each municipal medical association and to each medical association member. All informational contacts are set up to operate bidirectionally (Fig. 1).

Information shared by members of the network will be brought to the national level through individual medical facilities and patients.

(2) A communication network has been set up among prefectural medical associations, the National Institute of Infections Diseases, the Ministry of Health, Labor and Welfare, the Narita Airport Quarantine Station, and others, and the information obtained is disseminated almost on a daily basis from the Task Force to prefectural medical associations via e-mail and facsimile and is published on the JMA website under the heading “Information on infectious diseases and food poisoning.”

**Infectious Diseases Risk Management Committee**

The Infectious Diseases Risk Management Committee was organized by JMA to include experts on various infectious diseases who are working in the first line of defense and
four members from the executive board of JMA (including the director of the Task Force). The trends of infectious diseases in question and effective preventive measures are discussed in this committee whenever necessary.

A number of issues have been dealt with in this committee, including enterohemorrhagic E. coli (O157) infection, influenza, certified eradication of poliomyelitis, sexually transmitted diseases, relief from the health hazards of preventive vaccinations, measles prevention, amendment of the Preventive Vaccination Law, hepatitis C infection, severe acute respiratory syndrome (SARS), and rubella infection.

**Infectious Diseases Risk Management Conference**

The prefectural medical associations convene annually for the Infectious Diseases Risk Management Conference. The conference focuses on infectious diseases that are important at the time. Among the recent themes of the conference, SARS was discussed twice in 2003, while other topics have included “Recent topics in infectious diseases” in 2002, “Measures against biological weapons” in 2001, and “Current status and future issues in the diagnosis of tuberculosis and other infectious diseases.”

In addition, the following special meetings were held:

1. **Conference of Local Medical Associations Related to the Site of World Cup Soccer (May 10, 2002)**
   
   Because the FIFA World Cup Soccer championships were held in Japan, the Conference of Local Medical Associations Related to the Site of World Cup Soccer was held. JMA established a special headquarters to address issues related to the World Cup, and maintained daily 24-hour information exchange during the tournament, with executives in charge assigned to prefectural medical associations of the host cities.

2. **Reporting session on the prevention and treatment of SARS in China (November 5, 2003)**

   Following a meeting with physicians and nurses who had actually attended patients with SARS at the China-Japan Friendship Hospital, a reporting session was held in cooperation with the Japan-China Medical Association in order to help counter SARS in Japan.

**Implementation of JMA Open Lectures for Citizens**

The most important factor in initiating effective countermeasures for infectious diseases is to provide accurate information on them to the general public and to enlist the public’s cooperation in their prevention and early detection. Because of this, JMA has been providing open lectures for the general public. This initiative has been favorably received.

The topics of recent lectures have included “Animal-borne infectious diseases” (2004), “Preventing infectious diseases by prophylactic vaccination” (2003), “Overseas travel and infectious diseases” (2002), “Insidious sexually transmitted diseases: prevention and treatment” (2001), and “A new age in infectious diseases: reconsideration of prevention and treatment” (2000). Lectures are telecast to the entire country in a 70-min program, “Saturday Forum,” on NHK TV, and are recorded on video and distributed to each prefectural and municipal medical association. These videos are available for medical association members through the lending service of the JMA Video Library.

**Provision of Medical Information to Members**

1. **Written information**

   (1) Information on infectious diseases and food poisoning

   Information on the trends, prophylaxis, diag-
nagnosis, and treatment of infectious diseases is collected from prefectural medical associations, the National Institute of Infectious Diseases, the Ministry of Health, Labor and Welfare, and the Narita Airport Quarantine Station, among others, and compiled into reports issued on an almost daily basis. The reports are provided by the JMA Risk Management Task Force on Infectious Diseases, and they numbered 1,700 as of November 2004.

(2) Publication of guidelines for the diagnosis and treatment of infectious diseases

In 1999, together with the enforcement of the new Infectious Diseases Control Law, “Guidelines for the diagnosis and treatment of infectious diseases” were published under the supervision of JMA and the then Ministry of Health and Welfare, and distributed to all members. Since then, however, emerging and re-emerging infectious diseases have become problematic, and supplements and revisions were issued for smallpox and anthrax in 2001, tularemia, botulism, and west Nile fever in 2002, and severe acute respiratory syndrome in 2003. In 2004, an overall revision was made in preparing “2004 guidelines for the diagnosis and treatment of infectious diseases.”

(3) Publications in the Journal of the Japan Medical Association

Relevant information has been published in “the Journal of the Japan Medical Association” to alert all member physicians. Major articles of this kind have included the following:

- A guide to enterohemorrhagic Escherichia coli (O157) infection for primary and secondary medical institutions
- A guide to the prevention of nosocomial infection with tuberculosis
- A guide to the prevention of nosocomial infection with influenza (prepared annually)
- Hepatitis C Q & A (revised 5th ed.)
- Hepatitis B Q & A
- Influenza Q & A (prepared annually)

2. Use of the Internet

Among the notifications sent to the respective prefectural medical associations, those of particular importance and requiring distribution to all members are published on JMA’s website.

“Guidelines for the diagnosis and treatment of infectious diseases” is available to JMA members in the form of a PDF document from this website.

In addition, relevant topics are promptly published to provide timely information; the topics which have previously appeared include “Measures against infectious diseases at the World Cup,” “On the series of terrorist attacks in the USA,” “Nosocomial infection with Serratia bacteria: prevention of mass infection in hospitals,” “Creutzfeldt-Jakob disease and mad cow disease (bovine spongiform encephalopathy),” “Comprehensive measures against influenza,” “Hand-foot-mouth disease Q & A,” “Does polio vaccine cause poliomyelitis?” and “Warnings about food poisoning.”

3. Use of videos

JMA open lectures for the public and discussions from the Infectious Diseases Risk Management Conference are recorded on video, distributed to prefectural and municipal medical associations, and made available to all members through the lending service of the JMA Video Library.

Education of the General Public

To provide the general public with relevant information from all of its members’ medical institutions, or through the various meetings of individual medical associations, JMA has developed the following materials:

- A handbook companion to traveling abroad
- Tuberculosis prevention campaign posters and pamphlets
- Influenza prevention campaign posters and pamphlets
• Prophylactic rubella vaccination campaign posters
• Prophylactic measles vaccination campaign posters (Fig. 2)
• Prophylactic vaccination promotion posters

Information on infectious diseases is provided to newspapers, television stations, and book publishers, as well as to publishers of advertisements.

Establishment of “Children’s Prophylactic Vaccination Week” (Fig. 3)

Seven disease entities are prescribed as type 1 in the Preventive Vaccination Law: diphtheria, pertussis, poliomyelitis, measles, rubella, Japanese encephalopathy, and tetanus. Type-2 diseases include influenza (target subjects are 65 years old or older). Another disease similarly requiring preventive vaccination is tuberculosis (BCG), as prescribed in the Tuberculosis Prevention Law.

Vaccination has caused a marked decrease in the number of patients with infectious diseases. In particular, the occurrence of new cases of infection with natural strains of poliomyelitis virus has been eradicated. However, recently, the overall vaccination rate has tended to decline, resulting in various problems. Various factors seem to be involved in the declining rates, among them the use of MMR (mixed vaccine of measles, mumps, and rubella), health hazards created by the gelatin used as a stabilizer in vaccines, legal amendments including altered periods of vaccination, change from obligatory to nonbinding vaccination, change from mass to individual vaccination, decreased recognition of the importance of preventive vaccination, and the changing family situation, including increasing numbers of working mothers.

The problem of health hazards was largely resolved by discontinuation of the MMR vaccine, improvement of vaccines, and the use of gelatin-free vaccines. However, in terms of revisions, further efforts will be necessary to fully implement these new systems in society.

Particular attention has been given recently to the issue of childcare, and a “children’s preventive vaccination week” was established. This campaign was aimed at drawing the attention of caretakers and
residents in the community to preventive vaccination, thereby improving vaccination rates. Special emphasis was placed on the eradication of measles in Japan and altering Japan’s current reputation as an exporter of measles.

This campaign was implemented by JMA and the Japan Pediatric Society and was supported by the “Healthy Parents and Children 21” Promotion Conference. The campaign was held for one week from March 1 to March 7, 2004, a suitable period for cautioning against failure to have children vaccinated because parents’ attention to vaccination is heightened during this period, which is just prior kindergarten and school entry in Japan.

During this campaign, vaccinations based on the Preventive Vaccination Law, particularly those focusing on measles vaccination, were given. Offices were open seven days a week to provide counseling and vaccinations for those who find it difficult to visit a clinic during the work week.

“Children’s preventive vaccination week” was started in 2004, and will be held annually.

In 2004, this vaccination week was implemented in about 7,000 medical institutions nationwide, and the total number of vaccinates was about 13,000.

Measures against SARS

It is, of course, necessary to take all possible measures to be prepared for infectious diseases, regardless of when and where they occur.

Although SARS has not been experienced in Japan, the specific characteristics of the disease make it necessary to take measures according to the following levels of probability of occurrence: first level (normal circumstances), second level (occurrence of SARS outside the country), third level (domestic occurrence of SARS).

Risk management measures are summarized below according to the level of probability.

1. First level (normal circumstances)
   (1) Preparedness of medical institutions
      i) Preparedness of medical institutions that allow in-hospital care of SARS patients:
         A total of 739 negative pressure beds have been prepared in 287 institutions nationwide (as of May 2003). Provision of information to all medical institutions is necessary, after confirmation at each prefecture.
      ii) Preparedness of medical institutions that can cooperate in SARS outpatient care:
         Only about 100 medical institutions are designated for infectious diseases (type 1, type 2) that would permit SARS outpatient care. Because this number would not be sufficient for the treatment of all cases, an emergency subsidy was given to 527 non-designated medical institutions that accepted the request for cooperation. The subsidy has been extended to more institutions, and a total of 759 medical institutions (as of October 2003) are prepared to handle SARS outpatient care.
      iii) Preparation of general medical institutions (dealing with unexpected patient visits):
         In principle, patients with suspected SARS should call a general medical institution or local public health center in advance and visit a cooperating medical institution for
outpatient care. However, when a patient has visited a general medical institution without knowing of his or her disease, the institution should, as a rule, notify the local public health center promptly and ensure that the patient is transferred to a designated or cooperating medical institution.

For this purpose, patient transfer kits consisting of a mask (N95), gown, and gloves (the JMA-recommended SARS three-item patient transfer kit) are distributed to all the local medical associations. The Japanese government also provides each public health center with 100 kits to keep in storage (Fig. 4).

(2) Physicians’ training
In the SARS outbreak in Kangtong, China, more than 30% of patients were medical personnel, and the so-called “superspreader” responsible for the worldwide dissemination of SARS was reported to be a doctor. In addition, the SARS scare that occurred in Japan in 2003 was derived from a foreign doctor.

It is the responsibility of physicians, as medical professionals, to have accurate knowledge and awareness of SARS, to face the issue head-on, and to reassure the general public.

(3) Improvement of information network
Through the JMA infectious diseases information network, bidirectional information exchange with JMA members and close exchange of information with the Ministry of Health, Labor and Welfare, the National Institute of Infections Diseases, and other relevant organizations, are being promoted to construct an effective risk management system.

(4) Countermeasures for influenza in the elderly and medical personnel (vaccination)

2. Second level (occurrence of SARS outside the country)
(1) Enhancement of the strategy to “stop SARS at the border”
It is most important to implement the strategy to “stop SARS at the border” to thoroughly prevent the disease from entering Japan, using the revised and strengthened Infectious Diseases Control Law and Quarantine Law.

(2) Telephone counseling to guide SARS patients to cooperating medical institutions
Medical institutions and public health centers should be aggressive in providing telephone counseling services and guiding patients to visit a cooperating medical institution for SARS outpatient care if they have a fever of 38°C or higher and respiratory symptoms such as coughing and shortness of breath in addition to being within 10 days of returning from an area where SARS is epidemic or having had close contact with a SARS patient.

(3) Thorough provision of SARS information
It is important to promptly provide medical institutions and the general public with detailed information on the occurrence of SARS in foreign countries, and to make certain that people suspected of having SARS call a local public health center or medical institution for counseling.

(4) Designation of regions of focused attention and enhanced preventive measures
Areas expected to be the site of entry of SARS should be designated as regions of focused attention, and surveillance and preventive measures in these areas should be enhanced.

(5) Setting up a headquarters for countermeasures
At the second level, a JMA SARS countermeasures headquarters has been set up to gather information from the Ministry of Health, Labor and Welfare, the National Institute of Infections Diseases, quarantine stations, medical institutions, and so on. The relevant information is published in a collected form entitled “SARS-related information” in the daily report on “information on infectious diseases and food poisoning,” to promote wide dissemination of information. The countermeasures headquarters has
implemented 24-hour correspondence.

3. Third level (occurrence of SARS inside the country)

Physicians should do their best to detect SARS in the early stage and make every effort to contain it completely by prompt reporting of the infection.

It is assumed that containment of SARS as a type-1 infectious disease may sometimes require restrictions such as closing institutions, limiting the work of medical personnel, and restricting traffic. Although it is inevitable that medical institutions will have to make some sacrifices, they should take the lead in cooperating to minimize the infection. We also consider that their sacrifice should be compensated in some way.

Measures against Large-Scale Infectious Diseases (Counter-Terrorism Measures)

Guidelines for the diagnosis and treatment of anthrax, smallpox, tularemia, and botulism, which are likely to be used as tools of bioterrorism, were developed and published in Journal of the Japan Medical Association to alert all JMA members.

In particular, measures against smallpox were discussed in the issue on “actions to be taken against biological weapons,” and a video of measures against smallpox was produced and distributed to prefectural and municipal medical associations and has also been distributed on the Internet.

In addition, CD-ROMs describing the method of diagnosis of these infections were sent to municipal medical associations to ensure that all members are aware of them. A description has also been published on the JMA website.

Conclusion

Infectious diseases have continued to create new medical problems, not allowing caution to be relaxed. Recent years especially have seen many issues related to emerging and re-emerging viral infections. Threats from the development of highly virulent avian influenza and other new types of influenza as well as SARS have created a great deal of uneasiness among the general public.

It is the duty of medical professionals to do their utmost to diagnose and treat these infectious diseases early, and to take prompt measures against the diseases in cooperation with personnel both inside and outside the country, in order to reassure the general public as soon as possible. The public expects no less of us.