

Measures Against Zoonosis

森田剛史 厚生労働省健康局結核感染症課 課長補佐

Takeshi MORITA, D.V.M. Deputy Director, Tuberculosis and Infectious Disease Division,
Health Service Bureau, Ministry of Health, Labour and Welfare



The Ministry of Health, Labor and Welfare takes preventive measures to protect people from infectious diseases as stated in the Law Concerning Prevention of Infectious Diseases and Medical Care for Patients of Infections (the Infectious Diseases

Control Law) I would like to talk about zoonosis, diseases transmitted between humans and animals, in relation to human health and also touch on crisis management during disasters.

Let us consider the background of zoonosis, [Slide 2]. With the development of transportation systems, people, as well as products are being carried around the world with increasing speed. On an annual basis, there are approximately 16 million travelers going overseas from Japan. Of the items imported into Japan each year, food products alone account for about 30 million tons. Likewise, with the development of mass media, the increasingly speedy delivery of information is affecting human behavior and the distribution of products and items. Increasing population and urbanization have pushed people into areas that were previously uninhabited. But while the dramatic changes in society have brought us some amazing developments, infectious diseases can spread worldwide rapidly.

You may all recall the SARS (severe acute respiratory syndrome) corona virus which frightened the world in 2003, [slide 3]. Fortunately, there were no patients in Japan. However, news of an exposed traveler passing through Japan caused us great concern. There is also the well-known E. coli O-157, bacteria which causes food poisoning. There are also pathogens that can cause serious or fatal infection, all of which are kept in P4 secure facilities, [slide 4]. I am referring to pathogens such as Ebola hemorrhagic fever, Lassa fever, Marburg

disease (or 'green monkey disease'). Pathogens such as these and other new ones are being discovered.

The occurrence of zoonosis depends on the distribution of the pathogen carriers.

If we look at the numbers of H5N1 Avian flu A virus subtype patients worldwide, [slide 5], the orange numbers are the human cases reported at the respective locations since November 2003. The rest is the number and areas where it was reported among livestock. There have been a large number of cases in Asian countries such as Vietnam, Indonesia, China, and Thailand and there have been many cases in Egypt as well. Although there have been cases of avian flu among livestock and wild birds, there have been no human cases in Japan. It could be said that this disease is rarely transmitted to humans, only occurring in cases where there was extremely close contact with birds carrying the pathogen.

In this slide [slide 6] we see the occurrences of rabies around the world. (The data is from two years ago). There have been no cases in Japan for almost 50 years and many of us in Japan think rabies is a distant disease of the past. However, as the map shows, there are only a limited number of countries colored in blue, which refers to a so-called 'clean' country. We need to be aware that rabies is reported annually in many other countries such as China and India as well as in neighboring Asian countries. Although we have a quarantine system here, there is still a risk of rabies entering Japan due to the large influx of people and products. This is why there is a need to immunize dogs with rabies vaccination as a preventive measure.

There are other diseases transmitted by mosquitoes [slide 7] such as malaria, dengue fever, West Nile fever, chikungunya fever. The chikungunya fever is transmitted

between monkeys and mosquitoes. Although most human cases are seldom fatal, the symptoms include high fever and body pains that last for some time. The mosquito (*Aedes albopictus*) is a carrier, a common species found throughout Japan anywhere south of Tohoku. If someone is exposed to the disease overseas and returns to Japan and is bitten by a mosquito in Japan, it is likely the disease will spread. This is why preventive measures are important. There are posters and flyers alerting travelers at airport immigration counters, [Slide 8].

In the case of zoonosis in Japan, the Infectious Diseases Control Law states that physicians who treat cases of the mentioned diseases are required to notify the district health center. The information is then relayed to the national government via each prefectural government. The data shown [slide 9] is for 2005 through 2009 (up to Nov. 23). The blue numbers show patients who were exposed mainly overseas and developed symptoms after returning. Anywhere between 50 to over 100 cases of dengue fever and malaria are reported annually in Japan. The numbers in black are those cases mainly originating in Japan. For example, there are roughly 3,000 to 4,000 cases of EHEC (enterohemorrhagic *E. coli*) reported every year. There are other diseases, such as echinococcosis, that tend to occur only in certain areas of Japan.

People can be exposed to infectious diseases in a number of ways. There are diseases like enterohemorrhagic *E. coli* or hepatitis E [slide 10] which can be contracted orally by eating contaminated meats that are under cooked. Drinking water contaminated by echinococcosis is another source of exposure. Pathogens of parrot fever and Q fever are said to be found in the excretions and wastes of infected animals. If these wastes dry out to be carried in dust, the inhaling of such dust could cause contraction of the disease. Bug bites are another cause. Carriers like ticks could transfer diseases like scrub typhus, Japanese spotted fever, and lime disease. Mosquitoes are known to carry Japanese encephalitis. Leptospirosis is spread through contact with rodent urine. One could be exposed unknowingly by touching contaminated water or soil.

Now I will talk about crisis management in order to prevent spread of diseases when disasters occur, [slide 12]. When a strong earthquake strikes, utilities such as water and electricity fail. In many cases, it will not be safe for people to stay at home so they may have to stay at refuge centers. It will take some time before life can return to normal. The stressful conditions will result in a lowering of people's natural immune systems, making them more susceptible to illnesses. Also, sanitary conditions, such as the disposal of garbage and proper sewage, are difficult to maintain. Those with pets will find that their animals also feel stress in such situations, by not being able to be with their owners. Under normal circumstances, animals have the ability to fight infections or illnesses. However their immunity could become lowered due to stressful conditions, so pets may fall sick. This can result in them transmitting illness to each other. So measures to prevent pathogens being introduced into the human environment need to be taken. First of all, animals' health must be always maintained. It is also important to be careful when handling animals.

Here are some examples, [slide 13]. It is required by law to register dogs and have them inoculated with anti-rabies vaccines. Other vaccinations are also needed to keep the dog healthy and their environment should be kept clean. Plus, regular check-ups at the vet will help early detection of illnesses whereby early treatment can be provided. If you have any concerns or questions about your pet's health, always consult your vet.

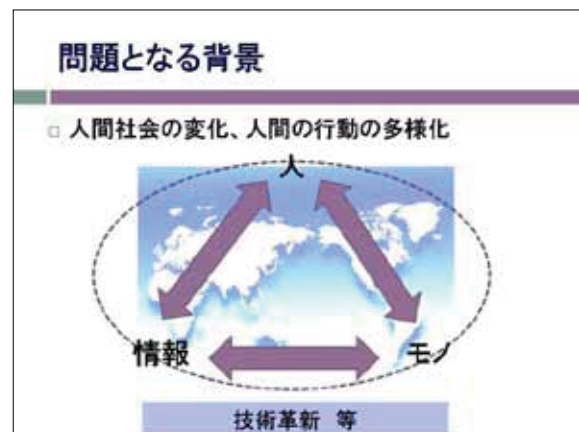
Next, it is important to be aware that, just as with people, even though an animal may appear to be perfectly healthy, it may still be a pathogen carrier, [slide 14]. Close contact should be avoided and be sure to wash your hands after touching animals. In the case of wild animals, needless to say, nobody knows what kind of pathogens they might be carrying so it is better to avoid contact as much as possible. In crisis situations, refuge centers must be kept as hygienic as possible so that pests such as rodents, mosquitoes are not attracted. Of course, everyday hygiene is important for ordinary life.

Another way to prevent spread of infectious diseases is to be well-informed. There are books that offer information but websites also have information on infectious diseases, [slide 15]. Our ministry has a webpage on infectious diseases and the National Institute of Infectious Diseases has a page where you can retrieve information about illnesses, listed in hiragana order. Quarantine and the Ministry of Foreign Affairs provide information for travelers. We are distributing a handbook today at the reception so please take this opportunity to use it as reference material, [slide 16].

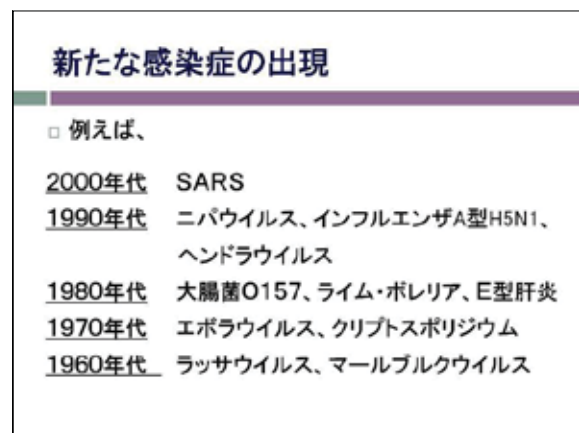
That concludes my talk, thank you.



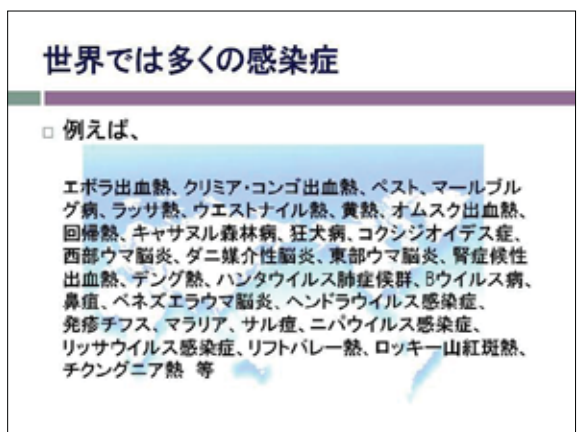
【Slide 1】



【Slide 2】



【Slide 3】



【Slide 4】



【Slide 5】

発生状況(日本)

□ 感染症法に基づく届出(医師)の例では、

	腸管出血性大腸菌 感染症	E型肝炎	ウエストナイル熱	エキノコックス 症	オウム病	Q熱	狂犬病	つがつが虫 病
平成17年	3,369	43	1	20	34	6	0	345
平成18年	3,922	71	0	20	23	2	2	417
平成19年	4,617	56	0	25	25	7	0	382
平成20年	4,307	49	0	17	9	3	0	434
平成21年	3,618	47	0	21	26	2	0	236

	デング熱	日本紅 斑熱	日本脳 炎	ブルセラ 症	マラリア	野兔病	ライム病	レプトスピラ 症
平成17年	74	62	7	2	67	0	8	17
平成18年	56	49	7	5	62	0	13	24
平成19年	89	98	10	1	52	0	11	35
平成20年	104	132	3	4	57	5	5	47
平成21年	84	117	3	2	52	0	7	12

【Slide 9】



【Slide 6】

- ### 人の感染経路
- 口から入る(加熱不十分な肉、汚染された水など)
 - 腸管出血性大腸菌、E型肝炎
 - エキノコックス症
 - 吸引する(感染鳥の排泄物に汚染された塵埃など)
 - オウム病、Q熱
 - 刺される(病原体を保有するダニ、蚊)
 - つがつが虫病、日本紅斑熱、ライム病
 - 日本脳炎
 - 触れる等(感染したげっ歯類の尿)
 - レプトスピラ症

【Slide 10】

- ### その他にも(海外では)
- 例えば、
 - 蚊が媒介する感染症
 - マラリア(世界では、年間2億5千万人以上の患者、80万人以上の死者がいると報告)、
 - デング熱(世界では、年間数千万人の患者が発生していると考えられている)
 - ウエストナイル熱(米国では、最近5年では、年間1~4千人程度の患者が確認され、そのうちの約3~4%が死亡)
 - チクングニア熱(東南アジア、特にインド洋の国々で流行。2006年にはインドで約140万人の感染者が報告)

【Slide 7】

コリネバクテリウム・ウルセランスについて

- まれに、コリネバクテリウム・ウルセランスに感染した動物から人が感染し発病(ジフテリア様の症状)
- 国内では、ウルセランス菌に感染している猫からの接触または飛沫による感染が強く疑われる事例が報告。(動物は、くしゃみや鼻汁などの風邪様の症状や皮膚病を示すものあり。)
- Q&AをHPIに掲載

【平成21年8月13日 朝日新聞(夕)記事】

【Slide 11】

海外渡航者に対する注意喚起(例)

【Slide 8】

- ### 地震などの災害時においては
- 人は
 - 普段よりも大きなストレスがかかる
 - 動物に対しては
 - できることが通常よりも限られる (ペットと一緒に過ごすことができない可能性)
- ↓
- 人での感染症の発生、まん延を防止するためにも
- 日頃からの動物の健康管理、動物との接し方が重要**

【Slide 12】

日常生活で注意すること

- 動物の健康管理
 - 狂犬病予防注射と登録(犬)
 - 動物の身の周りを清潔にする
- そして、できるだけ、
- 定期検診で病気の早期発見
 - かかりつけの動物病院で相談

【Slide 13】

日常生活で注意すること

- 動物との接し方
 - 過剰なふれあいを控える
 - 動物にさわったら、必ず手を洗う
 - 野生動物の家庭での飼育や野外での接触を避ける
- + 衛生害虫の発生を抑える

基本が大事！

【Slide 14】

情報発信 — ホームページ —



【Slide 15】

情報発信②

- ハンドブック



本日お配りしております。

【Slide 16】