REPORT

CURRENT STATUS OF RABIES PROBLEMS IN THAILAND

ABHA SINHASENI

Queen Saovabha Memorial Institute, Thai Red Cross Society, Bangkok, Thailand

(Received, July 7, 1979. Accepted, October 25, 1979)

Rabies is a communicable disease which is still a health problem in many countries of the world. The world-wide survey conducted by the World Health Organization for the year 1974 revealed that rabies was present in 64 countries. Thailand is one of the highly endemic areas of rabies. In the past 10 years, the annual number of human deaths from rabies varied slightly between 237 and 322.

The reported figures as appeared in Table I do not represent the actual data for the whole country. They are mainly the cases in Bangkok and provincial hospitals. The death rate for rabies each year is so high that the Government provides a large budget to eliminate stray dogs and to produce rabies vaccine for human and animals.

The chief natural hosts of rabies are canines and a small number of felines as shown in Table I. Therefore, we should concentrate on the elimination of stray dogs and registration and immunization of domestic dogs. Rabies Control Act of Thailand was issued in 1945 and amended in 1948 to cover all municipalities. Yet, the following problems are still to be solved.

Problems of rabies in Thailand
1. Health education problem
   There is a certain number of people who do not know about the danger of rabies virus. They do not go to get rabies vaccination after they have been bitten by rabid dogs, but they go to the monk or get herb medicines for the treatment.
2. Economic problem
   From 1959 to 1961, the local municipalities provided active measures to control rabies in urban areas. Stray dogs were destroyed and domestic dogs were vaccinated free of charge. About 100,000 doses of animal rabies vaccine were given by USOM (United States Operations Mission) to be used by the municipalities of various provinces.

   Later, between 1967 and 1973, 163,299 doses of animal rabies vaccine were donated by the Public Health Center of the American Air Force in Thailand.
These vaccines helped us prevent animal rabies to a certain extent. Since then, rabies vaccination in domestic animals has not been carried out effectively. At present, Semple animal vaccine is produced in our country but some other vaccines are imported. The owner of a dog has to pay 20 Bahts (about US$1.00). As a result, poor people cannot afford to bring their dogs to be vaccinated because their residences are far and they have to pay for transportation to bring their dogs into town for vaccination. So the number of vaccinated dogs is much smaller than what it should be.

A dog-bite patient often gets into a financial problem. If his house is far, he has to go and get rabies prophylactic treatment in town for many days continuously or sometimes he may get the rabies vaccine and pays someone to vaccinate him. Sometimes he does not get the vaccination regularly. It all depends upon his financial status.

3. Religion

The majority of the Thai people are devout Buddhists. The first commandment prohibits harming or killing the animal. We are kind to all...
TABLE II

Human rabies vaccine used in Thailand

<table>
<thead>
<tr>
<th>Year</th>
<th>Produced in Science Division Thai Red Cross</th>
<th>Produced in Government Pharmaceutical Organization</th>
<th>Suckling mouse brain vaccine</th>
<th>Duck embryo vaccine</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966</td>
<td>37,562*1</td>
<td>12,332</td>
<td>—**2</td>
<td>—</td>
<td>49,894</td>
</tr>
<tr>
<td>1967</td>
<td>34,004</td>
<td>15,080</td>
<td>—</td>
<td>—</td>
<td>49,084</td>
</tr>
<tr>
<td>1968</td>
<td>29,454</td>
<td>29,290</td>
<td>—</td>
<td>—</td>
<td>54,744</td>
</tr>
<tr>
<td>1969</td>
<td>38,085</td>
<td>20,494</td>
<td>183</td>
<td>—</td>
<td>58,662</td>
</tr>
<tr>
<td>1970</td>
<td>31,535</td>
<td>27,246</td>
<td>200</td>
<td>178</td>
<td>59,159</td>
</tr>
<tr>
<td>1971</td>
<td>36,899</td>
<td>33,028</td>
<td>200</td>
<td>300</td>
<td>70,427</td>
</tr>
<tr>
<td>1972</td>
<td>28,128</td>
<td>41,632</td>
<td>200</td>
<td>428</td>
<td>70,388</td>
</tr>
<tr>
<td>1973</td>
<td>32,902</td>
<td>38,242</td>
<td>266</td>
<td>714</td>
<td>72,124</td>
</tr>
<tr>
<td>1974</td>
<td>34,644</td>
<td>36,155</td>
<td>266</td>
<td>571</td>
<td>71,636</td>
</tr>
<tr>
<td>1975</td>
<td>28,009</td>
<td>39,090</td>
<td>333</td>
<td>642</td>
<td>68,056</td>
</tr>
<tr>
<td>1976</td>
<td>32,625</td>
<td>51,666</td>
<td>300</td>
<td>—</td>
<td>84,591</td>
</tr>
<tr>
<td>1977</td>
<td>30,448</td>
<td>62,333</td>
<td>5,000</td>
<td>—</td>
<td>97,781</td>
</tr>
</tbody>
</table>

*1 Number of persons who received post-exposure treatment with rabies vaccine.
*2 No data.

animals. So when the municipal officers are coming to catch stray dogs, people interfere with the execution of their duty keeping the dogs inside their houses or chasing the animals into Buddhist monasteries. This causes a serious problem and stray dogs cannot be completely eliminated.

Native dogs breed large numbers of puppies. The owner of a bitch cannot take care of all the puppies because of his financial problem. The puppies will not be killed but taken to a monastery and left astray. In monasteries, animals will not die from starvation. Anybody who wants a puppy can take one from there. So in the monasteries, there are lots of animals especially dogs (and cats) which may contract rabies any time and contaminate men as well as animals.

4. Vaccination problem

Semple vaccine is used in Thailand. It is made from the sheep brain by the Science Division of Thai Red Cross Society and the Government Pharmaceutical Organization. This vaccine is utilized in the country through distribution by the Department of Communicable Disease Control to health centers all over the country.

Since the Semple vaccine is made from the ovine brain, the myeline sheath present in the vaccine often causes allergic effects. The symptoms of allergy vary from urticaria to encephalomyelitis and a few cases are fatal. The available statistics of allergy to the Semple rabies vaccine in the state of paralysis is about 1 in 3,000 up to 1 in 1,000 persons vaccinated. Actually it could be higher than this if we can get data from all health centers.
There are also some problems about the transportation of vaccine upcountry. Sometimes it takes several days to transport the vaccine and keep the optimum temperature in maintaining the potency is another important problem encountered during the transportation. When the potency of the vaccine is reduced to a certain point, the death from rabies among vaccinated people is expected due to inefficiency of the vaccine for the prevention of rabies.

Another type of vaccine, the suckling mouse brain vaccine, is produced by the Virus Research Institute since 1969. Since the vaccine is produced in a small quantity, it has been used in about 5,000 patients yearly.

The last type of vaccine used in Thailand is Human Diploid Cells Vaccine produced Institute Merieux Lyon, France. This vaccine is used in less patients because it is very costly. It is used only by a few private practitioners.

Rabies antiserum is produced in a small quantity by the Science Division of the Thai Red Cross Society. A large quantity of the serum used is imported from the Pasteur Institute in Paris, and a small quantity from Lederle, U.S.A.

We need a lot of rabies antiserum for the patient, because treatment with rabies vaccine and the antiserum gives more successful result than that with vaccine alone. Actually rabies antiserum should be used in all patients bitten by rabid dogs. But the problem is its cost. Among the patients who come to our Institute, only the patients with a severe exposure to rabies will be allowed to get the serum therapy.

Solution of the problems

From the above-mentioned circumstances, it can be concluded that our problems may be solved by giving continuous health education to the public and to school children in classrooms for rabies. The people must be advised to realize the necessity of preventive vaccination against rabies and of obtaining registration licenses for their pets. They should also learn about the danger of rabies virus and transmission of the disease from their pets to both human and animals. The problems of inconvenience must be reduced, i.e., in getting the animal license, in doing routine laboratory diagnosis on the brains from suspicious animals for rabies and in vaccinating persons exposed to rabies.

There is a method in controlling dog population by contraceptive means. This method should be the favorable one for the Thai people. It is now on trial in some provinces by giving contraceptive injections to dogs.