EPIDEMIOLOGY UNIT

Ministry of Healthcare and Nutrition

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All Provincial Directors of Health Services
All Regional Directors of Health services
Directors of Teaching/General/Base Hospitals
All Medical Officers of Health

Re: Prevention and Control of Leptospirosis

(Further to the circular 01/38/2007)

We have been observing increasing numbers of leptospirosis cases over the years despite implementation of a set of strategies for its control and prevention. Last year (i.e. in 2007), a total of 2195 cases reported, 40% more than that of previous year. This year up to April 11, a total of 1147 cases and 41 deaths have been reported. Unusually high case fatality rate and high reporting from districts such as Ratnapura, Hambantota, Anuradhapura and Moneragala (in addition to the already identified high risk areas) are some of the notable features observed this year. This alarming trend emphasizes the need for revising the current strategies.

In this regard, recently a workshop was conducted with the participation of Consultant Physicians and Microbiologists. It was stressed that good clinical management practices in hospitals is extremely important to prevent complications and deaths due to leptospirosis. In addition, primary prevention activities should be strengthened at district and divisional levels in order to prevent and control leptospirosis.

1. Admission

It is suggested that the patients presenting with following signs / symptoms and history should be admitted for inward management:

- Fever patients with the history of exposure to leptospira contaminated environment (e.g. local agricultural practices, gem mining, cleaning canals & drains and swimming/ playing in contaminated/ flood water etc.) and symptoms/ signs such as conjunctival suffusion and muscular pain/ tenderness.
- Fever patients even without proper history of exposure, but highly suspicious presenting with conjunctival suffusion and muscular pain / tenderness (notable in calf and lumbar areas).

If facilities are available and it is feasible, a special area can be allocated for proper fever screening at the out patient division of the hospitals.

2. Notification

Routine notification process should be continued as being practiced. Early notification and investigation are essential particularly to forecast outbreaks and take early interventions

3. Inward Management

Once admitted to the ward as suspected cases of leptospirosis, following should be done:

- Treatment with IV penicillin (6 hourly) should be initiated without delay.
- Maintenance of adequate hydration & IV fluids can be given, if indicated.
- Maintenance of fluid balance chart.
- Carrying out basic investigations such as FBC, Urine FR, and Blood Urea & Electrolytes.
- If the results of above investigations (e.g. polymorpholeucocytosis & albuminuria) are not in favour of a diagnosis of leptospirosis, treatment with IV penicillin could be stopped.
- If the duration of fever is more than 3 - 4 days be vigilant of signs and symptoms suggestive of possible complications such as renal failure, heart failure and widespread haemorrhage.

4. Transferring patients to higher level institutions

- Despite adequate hydration, if there is concern about urine output i.e. inadequate urine output.
- Symptoms suggestive of cardiac involvement such as hypotension and tachycardia.

Always explore the possibility of doing peritoneal dialysis at the institute itself without transferring patients only for the indication of dialysis.

5. Laboratory investigations

- Whenever possible clinical suspicion of leptospirosis should be confirmed by necessary laboratory tests.
- Laboratory investigations such as species specific microscopic agglutination test (MAT) for a high titre or a rising antibody titre, ELISA test, and antigen detection by PCR are some of the confirmatory laboratory tests.
- Confirmatory diagnosis could be done at the Medical Research Institute (MRI) mainly by detecting antibodies (e.g. MAT). However, please note that the serological tests do not become positive with the onset of illness. Thus, the blood samples should be sent after 5 days of onset of illness and a 2nd sample should be sent 4 - 5 days later if the clinical suspicion is high but the MAT result for the 1st sample was equivocal or negative (i.e. to demonstrate rising titre).
- The usefulness of cultures in submitting early samples (2 drops of blood into culture medium) which may become positive before the antibodies appear, preferably taken before starting antibiotics. Considering the cost, samples should be sent for culture when the patient presents in the early stage of the disease and clinical suspicion is very high.

- Moreover, investigations such as serovar and sero-group specific MAT test, and culture are useful for epidemiological and public health reasons, as they would be helping in investigating the source of infection, potential reservoir and planning & evaluating interventions.

6. Sentinel surveillance

Sentinel surveillance is carried out only in selected hospitals in the high risk areas. At present, 16 hospitals are functioning as sentinel sites. The Infection Control Nurses (ICN) attached to these institutions will carry out investigation while the patients are in the wards. If there are designated medical officers to coordinate public health activities at hospital level, it is their responsibility to liaise with the infection control nurses to carry out surveillance activities more efficiently and effectively.

7. Mortality review

To further strengthen the surveillance activities, the sentinel hospitals are requested to conduct mortality reviews for leptospirosis deaths with the participation of the relevant ward doctors and MOOH. For the transferred cases, it would be beneficial to invite the medical officers of the relevant hospitals also for the reviews.

The main objective of the leptospirosis mortality review is to identify the factors contributed to the deaths and to take remedial action at both field and institutional levels. This is to identify the shortcomings in the system and certainly not to find fault with any individuals. Regional Epidemiologist will assist the sentinel hospitals in this process. A final report to the Epidemiology Unit with copies of the reporting forms filled by the clinicians would be the outcome envisaged. Depending on the number of deaths, sentinel hospitals can decide on the frequency of these reviews.

8. Prevention of leptospirosis

8.1 Not to neglect primary prevention activities and they should be continued as usual. It is the responsibility of the MOOH to carry out prevention and control activities at the divisional level. All notified cases should be investigated early. The collected information should be rationally used to plan & evaluate prevention and control activities. The MOOH should visit the hospitals in their areas and discuss the issues with the hospital authorities at least once in two weeks.

8.2 Chemoprophylaxis: As there is no concrete evidence to show the effectiveness of prophylaxis, it is not advocated as a routine and leading preventive strategy. It is recommended only for well recognized high risk groups. Discussion with farmers' organizations and agrarian services, and identification of high risk localities at the divisional level (e.g. reported clustering of cases in a particular area following exposure to contaminated environment) will help to identify high risk groups. If prophylaxis is given, it should be closely monitored by the MOH and the field public health staff.

8.3 Awareness: Raise awareness about the disease among risk groups, health care providers and general population, so that the disease can be recognized early and treated as soon as possible. MOOH and PHII should take responsibility for this activity with the support of the district health education and promotion officers.

9. Others

- Consultant Physicians to conduct clinical management training/ awareness programmes for GPs and MOO of smaller hospitals in their areas to emphasize the local epidemiology and clinical manifestations of leptospirosis, and the need to start specific treatment without delay and early referral if indicated. The Regional Epidemiologists of the respective areas will organize these programmes.
- It is the responsibility of the Regional Epidemiologists to monitor and evaluate leptospirosis prevention & control activities at district and divisional levels. They should visit all larger hospitals in the district at least once in two weeks.
- To strengthen the intersectoral coordination for prevention and control of leptospirosis, establishment of district coordination committees is recommended. All stakeholders including local government authorities and officials from agriculture, irrigation, veterinary etc. need to be involved in this forum. It is the responsibility of the RDDHS and REE to ensure the functioning of these committees.

Please bring the contents of this letter to the notice of all officers concerned in your institution / district / province. If you need any further clarification, please contact your area Regional Epidemiologist or Dr. N. Janakan, Consultant Epidemiologist at my unit.

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Chief Epidemiologist

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