DIRECTORATE OF HEALTH SERVICES
24x7 DISASTER CONTROL ROOM
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No. CR 4/19/DHS

Date: 16/08/2019

ATTENTION ALL DISTRICT MEDICAL OFFICERS

Sir/Madam

In view of the increased risk of leptospirosis in the post flood scenario you are hereby directed to give prompt instruction to all Medical officers in your districts to strictly adhere to the state guidelines in management of patients suspected to have Leptospirosis. Any case of fever with myalgia from flood affected area/ person with history of contact with flood water or dirty water/person with travel history to flood affected area/persons involved in relief activities should be considered as Leptospirosis and treatment given as per guidelines(attached).

All SVOs are instructed to ensure that there is sufficient quantity of Doxycycline, Inj. Crystalline Penicillin and Inj. Ceftriaxone in all institutions providing Inpatient care. Inj.Crystalline penicillin should be the 1st line of treatment of all leptospirosis cases (except in case of allergy to penicillin) in all major hospitals (from Taluk level hospital onwards).

16/8/19

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No. CR 99/18/DHS **Date : 06/09/2018**

GUIDELINES FOR MANAGEMENT OF LEPTOSPIROSIS IN TALUK LEVEL HOSPITALS

OUTPATIENT DEPARTMENT MANAGEMENT

- All patients from flood affected areas or those who have visited flood affected areas and exposed to contaminated water with fever should be considered as a case of leptospirosis unless otherwise proved.
- They should be examined for any red flag signs like tachypnoea, tachycardia, hypotension, cold clammy extremities, altered sensorium ,jaundice, oliguria or haemorrhagic manifestations and lung crepitation
- If any of the red flag signs are present they should be admitted to intensive care unit/High dependency unit.
- If there are no red flag signs, the patient should be started on T. Doxycycline 100mg twice daily for 7 days.
- Patients started on Doxycycline should be educated thoroughly on symptoms suggestive of red flag signs like excessive tiredness, breathing difficulty, jaundice, reduced urine output, haemorrhagic manifestations in skin etc. They should be instructed to report immediately if any of the symptoms develop.
- All pregnant ladies and those with comorbidities like uncontrolled diabetes mellitus, cirrhosis, CKD, CAD, COPD, HIV, Malignancies, Haematological disorders, patients on immunosuppressant's should be admitted even without any red flag signs.

IN PATIENT MANAGEMENT

- All patients with red flag signs should ideally be managed in an ICU/HDU for close and continuous monitoring (ensure the usage of clinical monitoring chart)
- If the institution is not having ICU/HDU, the patient should be admitted in a ward exclusively set up for management of Leptospirosis only, where facilities are available for close monitoring and sixth hourly intravenous injection of crystalline penicillin.
- The patient should be frequently examined by all physicians/paediatricians (as the case may be) as a single unit.
- The superintendent and RMO of the institution should visit the patient twice daily and ensure the availability of human resources, logistics and medicines.

- Patients admitted in ICU/HDU /Lepto Wards should be immediately put on Inj crystalline penicillin at a dosage of 20lakh units Q6H intravenously after a test dose, for children 3-4lakh units/kg/day sixth hourly intravenously.
- First dose of injection CP should be given as a supervised dose, with patient in supine position and with emergency drugs, cannula, AEFI kit etc. in place.
- In case of a past history of penicillin anaphylaxis or a positive skin test, alternative drug is injection Ceftriaxone 1gram IV BD after skin test .For children injection Ceftriaxone 100mg/kg/day IV BD may be given after test dose.
- In case of a positive skin test to inj. Ceftriaxone, injection Doxycycline 200mgIV stat followed by, 100g IV 12 hourly or injection Azithromycin 500 mg IV OD may be used as alternative.
- IV antibiotics should be continued for at least 5 days.
- Other supportive measures according to the patient's condition should be ensured.

Investigations

- Blood routine- Hb, TC,DC, PLC
- RBS,LFT, RFT, Na, K
- Urine routine
- CPK- in case of oliguria and severe myalgia
- Lepto Card test/ELISA is not mandatory since the negative result do not rule out leptospirosis, especially if the illness is fast progressing.

Referral protocol

Patient should be referred to a tertiary care centre if the patient has the following features

- Hypotension(SBP< 100mm of Hg) with disproportionate increase in heart rate (HR >10 per every 1degree F rise in temperature)
- Tachypnoea (>30/minute) and lung crepitation's, hypoxemia (SpO2 <90%) despite continuous oxygen.
- Progressively deepening jaundice.
- Oliguria not responding to fluid challenge/deranged serum creatinine.
- Haemoptysis, Melena, Upper GI bleed, Menorrhagia, spontaneous gum bleed.
- Altered sensorium persisting even after correction of electrolytes.

Human Resources

- Admitted leptospirosis (suspected/ confirmed) should get round the clock care and monitoring. Hence physicians/ paediatricians should be available for emergency on call services after the regular duty hours of 8 am to 1pm.
- The superintendent should post adequate number of staff nurses if leptospirosis patients are admitted.
- Round the clock availability of general duty doctors should be ensured.

Supportive Services

- There should be round the clock provision for shifting the patient to higher centre. If an ambulance is not available, the superintendent should ensure arrange for alternate facility.
- Lab facility – if 24x7 lab facility is not available in the institution, investigations may be outsourced, ensuring free investigations to the patients.

Documentation and reporting

- All cases of fever coming to the outpatient and casualty department should be properly documented in the registers.
- OP ticket should contain all relevant details including symptoms, signs, examination findings and provisional diagnosis.
- For inpatients the case sheets should contain all relevant details like daily examination findings, investigation reports, treatment details and clinical diagnosis.
- If the patient is referred the reason for referral should be clearly written.
- At the time of discharge, the discharge summary should contain relevant points in history, examination, investigations, treatment and follow up.
- Daily reporting of cases in the OPD, casualty ICU, HDU or wards is very important since leptospirosis is a public health emergency in post flood period and Kerala is facing an epidemic of the disease at present.

PARAMETER	DATE AND TIME				
Sensorium	Normal ◯ Altered ◯	Normal ◯ Altered ◯	Normal ◯ Altered ◯	Normal ◯ Altered ◯	Normal ◯ Altered ◯
Body temperature	^0F	^0F	^0F	^0F	^0F
Pulse rate	***Beats/mt***	***Beats/mt***	***Beats/mt***	***Beats/mt***	***Beats/mt***
Pulse rhythm	Regular ◯ Irregular ◯	Regular ◯ Irregular ◯	Regular ◯ Irregular ◯	Regular ◯ Irregular ◯	Regular ◯ Irregular ◯
Pulse volume	Good ◯ Weak & thready ◯ Absent ◯	Good ◯ Weak & thready ◯ Absent ◯	Good ◯ Weak & thready ◯ Absent ◯	Good ◯ Weak & thready ◯ Absent ◯	Good ◯ Weak & thready ◯ Absent ◯
Blood pressure	***mm of Hg***	***mm of Hg***	***mm of Hg***	***mm of Hg***	***mm of Hg***
Pulse pressure (Normal >20 MM of Hg)	***mm of Hg***	***mm of Hg***	***mm of Hg***	***mm of Hg***	***mm of Hg***

Respiratory rate	*Breath/Mt*	*Breath/Mt*	*Breath/Mt*	*Breath/Mt*	*Breath/Mt*
Spo^2	*%*	*%*	*%*	*%*	*%*
Icterus	Present ◯ Absent ◯	Present ◯ Absent ◯	Present ◯ Absent ◯	Present ◯ Absent ◯	Present ◯ Absent ◯
Warmth of extremities	Warm ◯ Cold ◯	Warm ◯ Cold ◯	Warm ◯ Cold ◯	Warm ◯ Cold ◯	Warm ◯ Cold ◯
Neck rigidity					
Chest pain					
Chest air entry, any creps on auscultation					
Abdominal pain / vomiting					
Liver size					
Hemorrhagic manifestations					
Input (Fluids in ML)					
Urine output (in ML)					

Investigations	Hb……TC……DC……ESR……PLT…… … RBS……LFT……RFT…… …. CPK……PT/INR……APTT…… …… Urine RE…… Peripheral smear …… CT brain……