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Kementerian Kesihatan Malaysia
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Tarikh: 2 Ogos 2016

SENARAI EDARAN

Y.Bhg. Datuk/Dato'/Datu/Datin/To' Puan/Tuan/Puan,

SURAT PEKELILING KETUA PENGARAH KESIHATAN MALAYSIA BIL. 16 /2016

PEMURNIAN PENGURUSAN KES DIFTERIA

1. TUJUAN

1.1 Surat Pekeliling ini bertujuan untuk memaklumkan beberapa perkara teknikal berkaitan pengurusan kes difteria semasa peningkatan kes yang sedang berlaku sejak kebelakangan ini.

2. LATAR BELAKANG

2.1 Jangkitan difteria merupakan jangkitan akut yang memerlukan diagnosa dan pengurusan kes dengan segera bagi mengelakkan komplikasi kes dan rebakan jangkitan.

2.2 Peningkatan kes difteria pada minggu epid 25 yang melibatkan tiga (3) kluster di tiga (3) buah negeri juga telah menyebabkan kerisauan di kalangan orang ramai dan juga kakitangan perubatan dan kesihatan.

2.3 Kesediaan ujian *polymerase chain reaction* (PCR) bagi mengesan toksin difteria yang ditawarkan oleh institut Penyelidikan Perubatan (IMR) secara tidak langsung telah menyebabkan definisi kes tidak dipatuhi.

2.4 Bakteria *Corynebacterium diphtheriae* dengan reproduksi asas (*basic reproduction* R_o) 6 hingga 7 merupakan normal flora dalam 5% ke 10% populasi. Keadaan ini merumitkan diagnosa dan pengurusan kes serta kontak.

2.5 Sehubungan dengan itu, Surat Pekeliling ini dikeluarkan bagi memudahcara pengurusan kes difteria dan kontaknya sementara garispanduan berkaitan diperincikan, dikemaskini dan diperakui untuk digunakan.

3. PENGURUSAN KES

3.1 Definisi Kes Difteria

3.1.1 Kementerian Kesihatan Malaysia telah menggunakan kes definisi yang telah ditetapkan dalam *Diphtheria: Case Investigation and Outbreak for Healthcare Personnel 2014 Management Manual* (Lampiran 1).

3.1.2 Definisi kes tersebut adalah selari dengan definisi kes yang dikeluarkan oleh Pertubahan Kesihatan Sedunia, *Centre for Disease Control and Prevention* (CDC) Atlanta dan *European United* iaitu pengesahan kes difteria adalah melalui ujian kultur.

3.1.3 Semua kes disyaki difteria hendaklah dilaporkan dalam tempoh 24 jam dari masa ia didiagnos. Walau bagaimanapun, hanya kes disyaki difteria dengan keputusan ujian kultur positif *Corynebacterium diphtheriae toxin producing* sahaja yang perlu didaftarkan sebagai kes.

3.2 Ujian Makmal

3.2.1 Semua kes disyaki difteria yang memenuhi kriteria seperti di Lampiran 2 hendaklah dibuat calitan tekak untuk ujian kultur.

3.2.2 Keputusan ujian PCR hanya digunakan untuk pengurusan kes dan bukan sebagai ujian pengesahan kes. Ini kerana ujian PCR toksin positif boleh diperolehi bagi spesies *Corynebacterium* lain seperti *C. ulcerans* dan *C. pseudodipthericum*.

3.2.3 Semua isolat *Corynebacterium diphtheria*e yang diisolasi di makmal hospital hendaklah dihantar kepada Unit Bakteriologi IMR untuk ujian pengesanan toksin.

3.3 Rujukan Kes Disyaki

3.3.1 Kes disyaki difteria hendaklah dirujuk ke hospital untuk rawatan dan isolasi. Pastikan kes memakai *mask* (3 *ply surgical mask*) apabila dirujuk.

3.3.2 Bagi sesetengah hospital yang lazimnya memerlukan rujukan dan pemeriksaan oleh pegawai perubatan dari Jabatan Telinga, Hidung dan Tekak (*Ear, Nose and Throat* – ENT) dicadangkan untuk disediakan bilik pemeriksaan di Jabatan Kecemasan bagi mengurangkan risiko jangkitan kepada lebih ramai orang.

3.4 Rawatan

3.4.1 Kes disyaki difteria yang memenuhi kriteria seperti di Lampiran 3 hendaklah dimasukkan ke dalam wad untuk tujuan isolasi dan rawatan sementara menunggu keputusan ujian makmal.

3.4.2 Kes disyaki difteria dan kes *probable* difteria dengan keputusan negatif kultur boleh didiscaj selepas

- mendapat rawatan antibiotik sekurang-kurangnya 48 jam di dalam wad;
- memaklumkan kepada pihak pejabat kesihatan daerah tindakan mendiscaj kes supaya lawatan tindaksusul ke atas kes boleh dilakukan bagi memastikan kes meneruskan pengasingan di rumah dan menghabiskan rawatan antibiotik yang dibekalkan.

3.4.3 Kakitangan kesihatan dan perubatan yang mengendalikan kes difteria dan memakai alat perlindungan diri (*personel protective equipment* –PPE) bagi *droplet precaution* tidak perlu diberi rawatan profilaksis.

3.5 Pencegahan dan Kawalan Infeksi

3.5.1 Difteria disebarkan melalui sekresi pernafasan kes dijangkiti.

3.5.2 Pencegahan dan kawalan infeksi hendaklah mematuhi garispanduan seperti di Lampiran 4.

4 TARIKH BERKUATKUASA

Arahan di dalam Surat Pekeliling ini adalah berkuatkuasa mulai dari tarikh surat ini dikeluarkan.

5. PERTANYAAN

Sebarang pertanyaan boleh dikemukakan kepada:

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Bahagian Kawalan Penyakit
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No. Telefon: 03 – 8883 4411 / 4504
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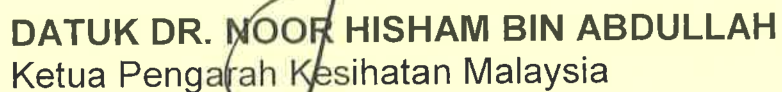
6. PENUTUP

Y.Bhg. Datuk / Dato' / Datu /Datin / To' Puan / Tuan / Puan adalah bertanggungjawab untuk memastikan pekeliling ini dihebahkan dan dipatuhi. Komitmen dari semua petugas di klinik kesihatan dan hospital dalam mencegah difteria dari merebak.

Sekian, terima kasih.

'BERKHIDMAT UNTUK NEGARA'

Yang ikhlas,



DATUK DR. NOOR HISHAM BIN ABDULLAH
Ketua Pengarah Kesihatan Malaysia

LAMPIRAN 1

DEFINISI KES DIFTERIA

1. Suspected case

A person with an upper respiratory tract illness characterised by laryngitis **OR** pharyngitis **OR** tonsilitis

AND

adherent membrane of the tonsils, pharynx and/or nose.

2. Probable case

A person with an upper respiratory tract illness characterised by laryngitis **OR** pharyngitis **OR** tonsilitis

AND

adherent membrane of the tonsils, pharynx and/or nose

WITH one or more of the followings:

- Stridor/bull neck (cervical oedema) / toxic circulatory collapse / acute renal failure / sub-mucosal or sub-cutaneous petechiae / myocarditis.
- Recent contact with a laboratory confirmed case within 14 days or two incubation period.
- Incomplete (less than 3 doses) or not vaccinated.
- Positive toxigenic PCR test (but it is not confirmatory).

3. Confirmed case

A person with an upper respiratory tract illness characterised by laryngitis **OR** pharyngitis **OR** tonsilitis

AND

adherent membrane of the tonsils, pharynx and/or nose

WITH

isolation of toxigenic *Corynebacterium diphtheriae.*

LAMPIRAN 2

Criteria for throat swabbing

1. Suspect or probable case
2. Close contact of confirmed case
3. Symptomatic close contact of suspect or probable case

Close contacts

Is defined as individuals who were in contact with any laboratory confirmed diphtheria case for eight hours

AND

in close proximity with the case in the last 14 days.

They are:

- Household members;
- Friends, relatives, care takers who regularly visit the home;
- Kissing or sexual contact
- Those who share same room at school, work or shelter homes and;
- Health care workers exposed to pharyngeal secretion of the infected patients.

Note: Healthcare workers that have taken appropriate PPE is not considered as contacts.

LAMPIRAN 3

Kriteria Untuk Kemasukan Kes Difteria Ke wad

Criteria for admission (children)

Children fulfil case definition without or incomplete immunisation (less than 3 doses) WITH or WITHOUT epid linked to a confirmed case.

Criteria for admission (adult)

1. Cases fulfil case definition of suspected case.
2. Symptomatic (URTI) close contact with epid linked to a confirmed case.

LAMPIRAN 4

THE INFECTION PREVENTION AND CONTROL (IPC) MEASURES

THE GUIDING PRINCIPLES

The principles of IPC for acute respiratory infection patient care include:

a) Early and rapid recognition;
b) Application of routine IPC precautions (Standard Precautions) for all patients;
c) Additional precautions in selected patients (i.e. contact, droplet, airborne) based on the presumptive diagnosis;
d) Establishment of an IPC infrastructure for the healthcare facility to support IPC activities.

IPC strategies in healthcare facilities are commonly based on early recognition and source control, administrative controls, environmental and engineering controls and personal protective equipment (PPE).

STANDARD PRECAUTIONS

Standards Precautions are routine IPC precautions that should apply to **ALL** patients, in **ALL** healthcare settings. The precautions, described in detail within Chapter 3.1 of the 'Policies and Procedures on Infection Control – Ministry of Health Malaysia; 2010' are:

a) Hand hygiene before touching a patient; before any clean or aseptic procedure; after body fluid exposure risk; after touching a patient; and after touching a patient's surroundings, including contaminated items or surfaces;
b) Use of personal protective equipment (PPE) guided by risk assessment concerning anticipated contact with blood, body fluids, secretions and non-intact skin for routine patient care.
c) Respiratory hygiene in anyone with respiratory symptoms;
d) Environmental control (cleaning and disinfection) procedures;
e) Waste management;
f) Packing and transporting patient-care equipment, linen,laundry and waste from the isolation areas;
g) Prevention of needle-stick or sharps injuries;

A. IPC MEASURES WHEN DEALING WITH SUSPECTED OR PROBABLE DIPHTHERIA CASE

1) BEFORE ADMISSION

- Clinical triage - rapid case identification of patients
- Dedicated waiting areas
- Spatial separation of at least 1m between patients in the waiting rooms
- Provide tissues and no-touch receptacles for disposal of tissues/biohazard bag
- Provide resources for performing hand hygiene (alcohol hand rub bottles made available)
- Offer surgical mask if patient able to tolerate (not tachypneic, not hypoxic)
- Adequate environmental ventilation and environmental cleaning at waiting and triage areas

2) PATIENT PLACEMENT DURING ADMISSION

In descending order of preference:

i. Single room (nursed with door closed) and en-suite bath
ii. Single room

3) PPE WHEN PROVIDING CARE FOR SUSPECTED OR PROBABLE DIPHTHERIA CASE (STANDARD AND DROPLETS PRECAUTION)

- In addition to Standard Precautions, all individuals (visitors and HCWs), when in close contact (within 1m) or upon entering the room or cubicle of patients, should always wear a 3 ply surgical mask
- For procedures or activities likely to generate splashes of blood, body fluid, secretion or excretion, the following PPEs should be used:
  - Eye protection (i.e. goggles or a face shield)
  - A clean, non-sterile, long-sleeved gown
  - Gloves (some procedures may require sterile gloves)

- Always perform hand hygiene before and after contact with the patient and surroundings and immediately after removal of PPE.

- Use dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers)

- If equipment needs to be shared, clean and disinfect after each patient use.

- HCWs should refrain from touching their eyes, nose or mouth with potentially contaminated gloved or ungloved hands.

- Avoid the movement of patients unless medically necessary e.g.use designated portable X-ray equipment instead of bringing patient to radiology.

- If movement of patient is required, use preplanned routes that minimize exposure to other staff, patients and visitors. Notify the receiving area before sending the patient.

- Clean and disinfect patient-contact surfaces (e.g. bed) after use.

- HCWs transporting patients must wear appropriate PPE.

B. IPC MEASURES WHEN DEALING WITH CONFIRMED DIPHTHERIA CASE

i. Patient should be placed in isolation room in descending order of preference:
   a. Single room (nursed with door closed) and en-suite bath
   b. Single room
   c. Cohort with other confirmed patients
      - place patient beds at least 1m apart

ii. A 3 ply surgical mask should be used.

iii. For procedures or activities likely to generate splashes of blood, body fluid, secretion or excretion, the following PPEs should be used:

- Eye protection (i.e. goggles or a face shield)
- A clean, non-sterile, long-sleeved gown
- Gloves (some procedures may require sterile gloves)

C. DURATION OF ISOLATION FOR CONFIRMED DIPHTHERIA CASE

- Isolate the confirmed diphtheria case until 2 consecutive cultures from both the nose and throat are negative for toxigenic C.diphtheria.
- The cultures should be taken 24 hours after completion of antibiotics.

References:

i. Centers for Disease Control and Prevention - Epidemiology and Prevention of Vaccine-Preventable Diseases, 13th Edition, April 2015. Available at https://www.cdc.gov/vaccines/pubs/pinkbook/downloads/dip.pdf

ii. Policies and procedures on infection control. Ministry of Health Malaysia, 2010. Available at http://www.moh.gov.my/images/gallery/Polisi/infection_control.pdf

SENARAI EDARAN

Timbalan Ketua Pengarah Kesihatan (Kesihatan Awam)
Kementerian Kesihatan Malaysia

Timbalan Ketua Pengarah Kesihatan (Perubatan)
Kementerian Kesihatan Malaysia

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