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Ansari Nagar, New Delhi-110029

(MEDICAL RECORD SECTION -HOSP.)

No.F.4-VI/B/2018/Hosp.(MR)circular

Dated :04/01/2018

CIRCULAR

SUBJECT : REVISED GUIDELINES ON CATEGORIZATION OF SEASONAL INFLUENZA TESTING, TREATMENT AND HOSPITALIZATION.

Ministry of Health and Family Welfare has revised the guidelines on categorization of Seasonal Influenza cases during screening for home isolation, testing, treatment and hospitalization on 18/10/2016. A copy of the same is enclosed which is self explanatory. It has been decided that all admitted lab confirmed Seasonal Influenza cases must be notified.

In view of the above, all heads of clinical departments are requested to kindly make necessary arrangements to send the details of lab confirmed Seasonal Influenza patient(s) to the Medical Record Section, Room No.10, M.S. Office Wing who are admitted under them for onward transmission to the NVBDCP and Ministry of Health & Welfare, Govt. of India.

(DR. D.K. SHARMA)
MEDICAL SUPERINTENDENT

Distribution :

1. All Heads of the Clinical Departments.
2. Prof. & Head, Emergency Medicine.
3. Prof. & Head, All Clinical Labs.
4. Officer-in-Charge, Medical Records.
5. Chief Nursing Officer (Hosp.)
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08/01/18

Ashwini
6.1.18

Ministry of Health & Family Welfare Seasonal Influenza

Guidelines on categorization of Seasonal Influenza cases during screening for home isolation, testing, treatment and hospitalization (Revised on 18.10.2016)

In order to prevent and contain outbreak of Influenza virus the following guidelines for screening, testing and isolation are to be followed:

At first all individuals seeking consultations for flu like symptoms should be screened at healthcare facilities both Government and private or examined by a doctor and these will be categorized as under:

Category- A

- Patients **with mild fever plus cough / sore throat** with or without bodyache, headache, diarrhoea and vomiting will be categorized as Category-A. They **do not require** Oseltamivir and should be treated for the symptoms mentioned above. The patients should be monitored for their progress and reassessed at 24 to 48 hours by the doctor.
- **No testing of the patient for Influenza is required.**
- Patients should confine themselves at home and avoid mixing up with public and high risk members in the family.

Category-B

- (i) In addition to all the signs and symptoms mentioned under Category-A, if the patient has high grade fever and severe sore throat, may require home isolation and Oseltamivir;
- (ii) In addition to all the signs and symptoms mentioned under Category-A, individuals having one or more of the following high risk conditions shall be treated with Oseltamivir:
 - Children with mild illness but with predisposing risk factors.
 - Pregnant women;
 - Persons aged 65 years or older;
 - Patients with lung diseases, heart disease, liver disease

kidney disease, blood disorders, diabetes, neurological disorders, cancer and HIV/AIDS;

- Patients on long term cortisone therapy.
- **No tests for Influenza is required for Category-B (i) and (ii).**
- All patients of Category-B (i) and (ii) should confine themselves at home and avoid mixing with public and high risk members in the family.
- Broad Spectrum antibiotics as per the Guideline for Community-acquired pneumonia (CAP) may be prescribed.

Category-C

In addition to the above signs and symptoms of Category-A and B, if the patient has one or more of the following:

- Breathlessness, chest pain, drowsiness, fall in blood pressure, sputum mixed with blood, bluish discolouration of nails;
- Children with influenza like illness who had a severe disease as manifested by the red flag signs (Somnolence, high and persistent fever, inability to feed well, convulsions, shortness of breath, difficulty in breathing, etc).
- Worsening of underlying chronic conditions.

All these patients mentioned above in Category-C require testing, immediate hospitalization and treatment.

Clinical Management Protocol for Seasonal Influenza

1. Epidemiology

1.1 The agent

Influenza viruses belong to Orthomyxoviridae family of viruses. Its nucleic acid consists of single stranded RNA. There are 3 Influenza virus types, namely Types A, B, C. Types A and B are important for humans. Type A viruses cause greatest morbidity and mortality. Seasonal Influenza is caused by a number of circulating Influenza viruses such as Influenza A HI N 1, H3N2, H2N2, Influenza B etc. The Pandemic Influenza A (HINI) pdm 2009 virus that caused Pandemic [2009-2010] continues to circulate causing outbreaks of Seasonal Influenza in various parts of the country.

1.2 Host factors

Seasonal Influenza may affect all age groups; globally incidence is higher in young children and those above 65 years. Health workers and persons with co-morbid conditions (such as lung disease, heart disease, liver disease, kidney disease, blood disorders, Diabetes) and immuno-compromised persons are at higher risk. Influenza may have an aggressive course in extremes of age and in co-morbid conditions.

1.3 Environmental Factors

Monsoon is the usual seasonality for large parts of India. In north, north-west and Central India, the surge in cases usually occurs in winter months (January to March)

1.4 Mode of Transmission

The transmission is air borne from person-to-person, through large droplets generated by the act coughing and sneezing. These droplets when inhaled are highly contagious to susceptible persons.

There are other modes of transmission, including indirect contact by touching a contaminated object or surface (fomite transmission), close contact (including hand shaking)

1.5 Incubation period

Incubation period is 1- 4 days (typically 2-3 days). Viral shedding can begin before symptom onset and peaks on day 1 of the symptoms. Adults may continue to shed virus for 4-6 days, Children and Immuno suppressed/immune-compromised patients affected with influenza can shed for months.

1.6 Period of Communicability

From 1 day before to 7 days after the onset of symptoms. If illness persist for more than 7 days, chances of communicability may persist till resolution of illness. Children may spread the virus for a longer period.

2. Clinical features

2.1 Symptoms

The hallmark of influenza is the sudden, rapid onset of symptoms. Influenza symptoms may include fever, chills, body aches, sore throat, non-productive cough, runny nose and headache. Gastrointestinal symptoms and muscle inflammation occur more often in young children, and infants can present with a sepsis-like syndrome.

2.2 Physical findings

- Fever: rapid onset, peaking at 38.40°C (up to 41°C , especially in children), typically lasting 3 days (up to 4-8 days), gradually diminishing
- Face: flushed
- Skin: hot and moist
- Eyes: watery, reddened
- Nose: nasal discharge
- Ear: otitis
- Mucous membranes: hyperemic
- Cervical lymph nodes enlargement: (especially in children)

2.3 Course of Illness

Severity varies from afebrile symptoms mimicking common cold to severe prostration without major respiratory signs and symptoms, especially in the elderly. Fever and systemic symptoms typically last 3 days, occasionally 5-8 days, and gradually diminish. Cough and malaise may persist more than 2 weeks. Full recovery may take 1-2 weeks or longer, especially in the elderly.

2.4 Complications

In infants and children complications include sinus or ear infections, viral and bacterial pneumonia, bronchiolitis, croup, dehydration (with or without diarrhoea) febrile seizures, and worsening underlying chronic conditions. Immediate hospitalization, assessment and management may be required for exacerbation of chronic disease, severe dehydration, sepsis-like syndrome, respiratory complications (Bronchiolitis, Croup, Reactive airway disease, Pneumonia), Rhabdomyolysis, encephalopathy /encephalitis and cardiac complications such as Myocarditis and Pericarditis. Reye syndrome (with aspirin use), Toxic shock syndrome and Sudden death (may be due to cytokine dysregulation) have also been reported.

In adults and elderly, exacerbation of chronic illness [Cardiac (congestive cardiac failure, coronary artery disease); Chronic pulmonary disease (COPD), Metabolic disease (diabetes) etc] is the most common reason for hospitalization due to complications from influenza. Respiratory complications include Bronchitis, Sinusitis, Reactive airway disease and Pneumonia. There may be invasive bacterial co-infection (sepsis, pneumonia), mainly from *Staphylococcus aureus* [MRSA, MSSA], *Streptococcus pneumoniae*, Group A *Streptococcus* and Hemophilous influenza. In geriatric age group, viral pneumonia is common.

3. High Risk Groups

Infants, young children, pregnant women and elderly above the age of 65 are at higher risk of acquiring influenza.

Persons of any age with the following chronic conditions are at higher risk

- Chronic pulmonary or cardiovascular conditions
- Chronic neurological conditions that impair breathing or clearance of respiratory secretions
- Chronic metabolic diseases
- Renal dysfunction

- Hemoglobinopathies
- Immunosuppressed, immunocompromised
- Children 6 months -18 years on chronic aspirin therapy

4. Investigations

Routine investigations required for evaluation and management of a patient with symptoms as described above will be required. These may include haematological, biochemical, radiological and microbiological tests as necessary. Confirmation of seasonal influenza (including HI N 1) infection is through:

- Real time RTPCR or
- Isolation of the virus in culture or
- Four-fold rise in virus specific neutralizing antibodies.

For confirmation of diagnosis, clinical specimens such as nasopharyngeal swab, throat swab, nasal swab, wash or aspirate, and tracheal aspirate (for intubated patients) are to be obtained. The sample should be collected by a trained physician/microbiologist/technical or nursing staff, preferably before administration of the anti-viral drug. Keep specimens at 4°C in viral transport media until transported for testing. The samples should be transported to designated laboratories within 24 hours. If they cannot be transported then it needs to be stored at -70 °C. Paired blood samples at an interval of 14 days for serological testing may also be collected, if required.

5. Treatment

The guiding principles are:

- Early implementation of infection control precautions to minimize nosocomial/household spread of disease
- Prompt treatment to prevent severe illness & death.
- Early identification and follow up of persons at risk.

5.1. Infrastructure / manpower / material support

- Isolation facilities: if dedicated isolation room is not available then patients can be cohorted in a well ventilated isolation ward with beds kept one metre apart.
- Manpower: Dedicated doctors, nurses and paramedical workers.
- Equipment: Portable X Ray machine, ventilators, large oxygen cylinders, pulse oxymeter and other supportive equipments
- Supplies: Adequate quantities of PPE, disinfectants and medications (Oseltamivir, antibiotics and other medicines)

5.2. Standard Operating Procedures

- Reinforce standard infection control precautions i.e. all those entering the room must use hand washing practices, high efficiency masks, gowns, goggles, gloves, cap and shoe cover.
- Restrict number of visitors and provide them with PPE.
- Provide antiviral prophylaxis to unprotected / unvaccinated / accidentally exposed health care personnel managing a case and ask them to monitor their own health twice a day.
- Dispose waste properly by placing it in sealed impermeable bags labelled as Bio-Hazard.

5.3 Oseltamivir Medication

- Oseltamivir is the recommended drug for treatment.
- Dose for treatment is as follows -

By Weight:

- | | |
|--------------------|---------------------|
| ○ For weight <15kg | 30 mg BD for 5 days |
| ○ 15-23kg | 45 mg BD for 5 days |
| ○ 24-<40kg | 60 mg BD for 5 days |
| ○ >40kg | 75 mg BD for 5 days |

For infants:

- | | |
|---------------|---------------------|
| ○ < 3 months | 12 mg BD for 5 days |
| ○ 3-5 months | 20 mg BD for 5 days |
| ○ 6-11 months | 25 mg BD for 5 days |

It is also available as syrup (12mg per ml)

If needed dose & duration can be modified as per clinical condition

5.3.1. Adverse reactions:

Oseltamivir is generally well tolerated, gastrointestinal side effects (transient nausea, vomiting) may increase with increasing doses, particularly above 300 mg/day. Occasionally it may cause bronchitis, insomnia and vertigo. Less commonly angina, pseudo membranous colitis and peritonsillar abscess have also been reported. There have been rare reports of anaphylaxis and skin rashes. In children, most frequently reported side effect is vomiting. Infrequently, abdominal pain, epistaxis, bronchitis, otitis media, dermatitis and conjunctivitis have also been observed. There is no recommendation for dose reduction in patients with hepatic disease. Though rare reporting of fatal neuro-psychiatric illness in children and adolescents has been linked to oseltamivir, there is no scientific evidence of a causal relationship.

5.4 Supportive therapy

- IV Fluids.
- Parenteral nutrition.
- Oxygen therapy/ ventilatory support.
- Antibiotics for secondary infection.
- Vasopressors for shock.
- Paracetamol or ibuprofen is prescribed for fever, myalgia and headache. Patient is advised to drink plenty of fluids. Smokers should avoid smoking. For sore throat, short course of topical decongestants, saline nasal drops, throat lozenges and steam inhalation may be beneficial.
- Salicylate / aspirin is strictly contra-indicated in any influenza patient due to its potential to cause Reye's syndrome.
- The suspected cases would be constantly monitored for clinical / radiological evidence of lower respiratory tract infection and for hypoxia (respiratory rate, oxygen saturation, level of consciousness).
- Patients with signs of tachypnea, dyspnea, respiratory distress and oxygen saturation less than 90 per cent should be supplemented with oxygen therapy. Types of oxygen devices depending on the severity of hypoxic conditions, can be started from oxygen cannula, simple mask, partial re-breathing mask (mask with reservoir bag) and non re-breathing mask. In children, oxygen hood or head boxes can be used.
- Patients with severe pneumonia and acute respiratory failure ($\text{SpO}_2 < 90\%$ and $\text{PaO}_2 < 60$ mmHg with oxygen therapy) must be supported with mechanical ventilation. Invasive mechanical ventilation is preferred choice. Non invasive ventilation is an option when mechanical ventilation is not available. To reduce spread of infectious aerosols, use of HEPA filters on expiratory ports of the ventilator circuit / high flow oxygen masks is recommended.
- Maintain airway, breathing and circulation (ABC);
- Maintain hydration, electrolyte balance and nutrition.
- If the laboratory reports are negative, the patient would be discharged after giving full course of oseltamivir. Even if the test results are negative, all cases with strong epidemiological criteria need to be followed up.
- Immunomodulating drugs have not been found to be beneficial in treatment of ARDS or sepsis associated multi organ failure. High dose corticosteroids in particular have no evidence of benefit and there is potential for harm. Low dose corticosteroids (Hydrocortisone 200-400 mg/ day) may be useful in persisting septic shock ($\text{SBP} < 90$).

- Suspected case not having pneumonia do not require antibiotic therapy. Antibacterial agents should be administered, if required, as per locally accepted clinical practice guidelines. Patient on mechanical ventilation should be administered antibiotics prophylactically to prevent hospital associated infections.

5.5 Protocol for the ventilator management of patient with ALI/ARDS following Seasonal Influenza:

Indications for Mechanical Ventilation:

- Severe Respiratory Failure
- Failure to achieve oxygen saturation of $>$ or equal to 90% (or pO_2 of $>$ or equal to 60 mm Hg) on an $FIO_2 < 0.6$.

Ventilator Settings:

- Pressure pre-set (controlled)
- Low tidal volume ventilator support
- Tidal volume — 6 ml/kg ideal body weight (Respiratory rate to a maximum of 30-35 per minute).
- Open lung strategy of ventilation with PEEP titration to keep the lung recruited to achieve an FIO_2 of < 0.5 and a saturation of $> 90\%$ or a PaO_2 of > 60 mmHg
- Plateau (Pause) pressure not to exceed of $> 30-35$ mmHg.
- Alternative modes of ventilation APRV (Airway Pressure Release Ventilation), IRV (Inverse Ratio Ventilation) in patients with persistent Hypoxemia (SpO_2 of $< 88-90\%$ with high PEEP & $FIO_2 > 0.8$).
- Rescue therapy — recruitment manoeuvres, Sedation, Neuromuscular Blockage & Prone Ventilations can be considered if above oxygen goals are not met.

6. Discharge Policy

- Adult patients should be discharged 7 days after symptoms have subsided.
- Children should be discharged 14 days after symptoms have subsided.

Guidelines for Providing Home Care

In outbreak situations large number of patients attends hospital and the services may be overwhelmed. To avoid such situation, categorization of patients by risk needs to be done for which guidance has already been issued. All individuals seeking consultations for flu like symptoms should be screened at healthcare facilities both Government and private, examined by a doctor and categorized [Appendix- I].

Patients with mild fever plus cough / sore throat with or without bodyache, headache, diarrhoea and vomiting will be categorized as Category-A. They do not require Oseltamivir and should be treated for the symptoms mentioned above. The patients should be monitored for their progress and reassessed at 24 to 48 hours by the doctor. No testing of such patients for Influenza is required.

In addition to all the signs and symptoms mentioned under Category-A, if the patient has high grade fever and severe sore throat, or the following high risk conditions would fall under Category B and requires treated with Oseltamivir drug.

- Children with mild illness but with predisposing risk factors.
- Pregnant women;
- Persons aged 65 years or older;
- Patients with lung diseases, heart disease, liver disease
- Kidney disease, blood disorders, diabetes, neurological disorders, cancer and HIV/AIDS;
- Patients on long term cortisone therapy.

Patients in the above 2 categories (A &B) as mentioned above should confine themselves at home and avoid mixing up with public and high risk members in the family.

Guiding Principles for home care:

Patient should:

- be informed about the illness.
- stay home for seven days, preferably isolate himself / herself in a well ventilated room. Avoid common areas frequented by other family members of the family. If the living space is small and more than one person need to sleep in a room, ensure that the head end of patient and others sleeping in that room are in opposite direction (head to toe).
- wear mask all the time. Three layered surgical mask should be provided by the hospital/community health worker at the time of screening. If mask is not readily available, mouth and nose should be covered with a piece of cloth or handkerchief. The mask or handkerchief should be changed every six hours or earlier if it gets wet.
- avoid smoking.

- avoid close contact with others. If inevitable, they should always maintain an arm's length (at-least one metre).
- avoid having visitors.
- avoid hand shaking and wash hands frequently with soap and water
- be monitored to assess worsening of symptoms.
- take plenty of fluids.
- follow cough etiquettes whenever mask is not worn/not available -
 - Cover mouth and nose with a tissue/ handkerchief when coughing or sneezing;
 - Do not spit/blow nose here and there, use a water filled receptacle for collecting sputum, thereby minimizing aerosol generation.

Medication during Home Care:

- Medicines should be taken as advised by the doctor.
- Medicines available for fever, headache, body ache in general groceries, pan shops etc should not be taken as they may contain aspirin. Aspirin should not be given for fever or body ache.

Precautions to be taken by Care Giver:

The care provider should

- Wear triple layer surgical mask
- Wash hands frequently

Early Warning signs/ Symptoms for hospitalization

The care giver at home should be aware of the early warning signs. The early warning signs in adults are:

- High grade fever not responding to antipyretics.
- Difficulty in breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness, Confusion and
- Severe or persistent vomiting.

The early warning signs in children are:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- High fever with rash

These signs/ symptoms needs to be identified early for immediate start of treatment and hospitalization. Most of the adverse outcomes occur because of late reporting of the cases to hospital.

If fever is not responding, there is worsening of symptoms and in particular altered sensorium (confusion, incoherent speech etc) / loss of consciousness or difficulty in breathing, patient should be referred to nearest identified health facility.

In particular, patients with co-morbid condition (hypertension, diabetes, bronchial asthma, chronic bronchitis or Obstructive airway diseases, immune-compromised status etc) need to be observed for worsening of symptoms.

Preventive care for the contacts:

All the contacts need to self monitor their health.

House hold contacts of the cases having co morbid conditions shall be put on chemoprophylaxis with Oseltamivir drug. Prophylaxis should be provided till 10 days after last exposure (maximum period of 6 weeks) – Usual dosage for adults is 75 mg OD

Dosage by Weight

- | | |
|--------------------|----------|
| ○ For weight <15kg | 30 mg OD |
| ○ 15-23kg | 45 mg OD |
| ○ 24 - <40kg | 60 mg OD |
| ○ >40kg | 75 mg OD |

For infants:

- | | |
|---------------|-----------------|
| ○ < 3 months | Not recommended |
| ○ 3-5 months | 20 mg OD |
| ○ 6-11 months | 25 mg OD |

Infection Control:

The infection control practices listed in the guiding principles would be followed including frequent hand wash, cough etiquettes, maintaining arms length distance from others.

The contact surfaces would be disinfected by wiping, with sodium hypochlorite solution or with household bleach (5%) solution.

Masks, tissue papers should be disposed of in dustbins. Hands should be washed after handling these wastes.

Utensils used by the case should not be used by others without washing.

Wash hands with soap and water before and after handling linens and towels used by the patient.

Category- A

- I. Patients with mild fever plus cough / sore throat with or without bodyache, headache, diarrhoea and vomiting will be categorized as Category-A. They do not require Oseltamivir and should be treated for the symptoms mentioned above. The patients should be monitored for their progress and reassessed at 24 to 48 hours by the doctor.
- II. No testing of the patient for Seasonal Influenza is required.
- III. Patients should confine themselves at home and avoid mixing up with public and high risk members in the family.

Category-B

- I. In addition to all the signs and symptoms mentioned under Category A, if the patient has high grade fever and severe sore throat, may require home isolation and Oseltamivir;
- II. In addition to all the signs and symptoms mentioned under Category A, individuals having one or more of the following high risk conditions shall be treated with Oseltamivir:
 - Children with mild illness but with predisposing risk factors.
 - Pregnant women;
 - Persons aged 65 years or older;
 - Patients with lung diseases, heart disease, liver disease
 - Kidney disease, blood disorders, diabetes, neurological disorders, cancer and HIV/AIDS;
 - Patients on long term cortisone therapy.