Coronavirus-19 Pandemic: A Two-step Triage Protocol for Emergency Department

Dear Editor,

The world is reeling under the treat of the novel corona virus with hundreds of people dying every day.[1] Every epidemic in a country goes through four phases: Phase1, introduction or emergence in the community; Phase 2, local transmission; Phase 3, amplification; Phase 4, reduced transmission immunity.[2] For an emergency physician, who is at the frontline of the health delivery system, it is crucial to develop a mechanism during the Phase 2 and 3, where the patients with the disease are identified and properly isolated without getting themselves and other patients infected in the process. As the pandemic is progressing through different stages, we suggest a system of a two-step triage of the suspected cases.

“PRE”-Triage

During the Phase 2, when there are sporadic infections, the priority is early identification and isolation. There will be spike of ambulatory patients, with flu-like symptoms flooding the emergency department (ER) with concerns of coronavirus-19 (COVID19). There are two ways a patient can come to the ER: one is the preinformed transfer of a confirmed/suspected case from a different facility and the second is when a patient with mild symptoms walks in the ER. In the former scenario, the designated triage nurse/doctor can route the patient directly to the isolation ward or intensive care unit based on the physiologic status of the patient.

The second set of patients with symptoms who walk in directly to the ER have to be “pre”-triaged before being triaged based on physiological parameters. A designated nurse or doctor at a separated ED triage desk will ask focused questions about symptoms, history of travel, and history of contacts. As per the case definition of covid-19,[3] a checklist [Table 1] will be made to screen all patients, which will ensure that no suspicious case is left out. Use of telemedicine at this point is also suggested.[4] Once the case is identified, they should be immediately shifted to an isolation ward where further triaging will be done of physiological parameters. A separate “pre”-triage system with restricted activity of health-care workers (HCWs) and patients will prevent cross-infection. This way, normal patient flow is segregated from the suspected cases of corona virus [Figure 1].

Table 1: Pretriage checklist for coronavirus 19

| Name: | Sex/Age: | Address: |
|-------|----------|----------|
| Symptoms | Fever |  |  |
|         | Cough  |  |  |
|         | Breathlessness |  |  |
|         | Sore throat |  |  |
|         | Rhinorrhea |  |  |
|         | Nausea/vomiting |  |  |
|         | Diarrhea |  |  |
| Vitals | SPO2 | Temperature |  |
| History of travel | Recent travel to any country with COVID19 outbreak | Specify – Date of travel |  |
| History of contact | Any contact with confirmed or suspected case of COVID19 Yes/no |  |  |
| Any co-morbid illness | Yes/no if yes, specify |  |  |
| COVID19 testing done | Yes/no if yes, results |  |  |
| Decision | Shift to isolation unit | Send for home quarantine | Shift to routine ED |

COVID19: Coronavirus, ED: Emergency department
During the Phase 3, when there will be a surge of red and yellow patients, it is expected that systems may be overwhelmed. Important consideration here is activation of “Code Red/Code Blue.” Christian et al. in their observation during the severe acute respiratory syndrome outbreak found a high chance of spread of infections to HCWs during resuscitation.[5] The emergency physician should decide the usefulness of resuscitation in each case, especially in cases of unwitnessed arrests and should call off resuscitation if the outcome is grim. A separate triage category for patients coming in extremis should be made, labeled blue or gray, where decision to resuscitate is made on case to case basis. As the case load increases, the hospital may eventually resort to “reverse triage.”[6]

In conclusion, every ER should create a contingency plan to “pre”-triage the suspected COVID-19 patients to limit the spread of the disease.

**Financial support and sponsorship**
Nil.

**Conflicts of interest**
There are no conflicts of interest.

**References**
1. Novel Coronavirus (2019-nCoV) Situation Reports. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/
A two-step triage protocol for intubation was done and put ultrasound-guided central line were within the normal range. Rapid sequence endotracheal biochemical parameters including serum procalcitonin level 11.9 mg/dL, 34.5 g/dL, and 332,000/mm hemoglobin, hematocrit, and platelet count were 24,300/mm 80%, and 38.7°C, respectively. The white blood cell count, saturation, and temperature were 80/52 mmHg, 133 beats/min, emergency laparotomy. Her blood pressure, pulse, oxygen and widespread intra‑abdominal free fluid. She was diagnosed Her abdominal CT revealed a collapsed germinative membrane no history of trauma, fever, cough, chest pain, or hemoptysis. There was had urticaria, erythema, and rashes all over the body. There was emergency department in shock with respiratory distress. She treated successfully. A 57-year-old woman admitted to the hepatic cyst which led to anaphylaxis after rupture and was presentations of ruptured pulmonary hydatid cyst. Computed tomography (CT). Anaphylactic reactions are rare abdomen. The diagnosis is established by ultrasonography and are often admitted to the emergency department with an acute Patients with hydatid cyst rupture into the peritoneal cavity rupture of a cyst, although rare (1%–8%), is life-threatening. Hydatidosis, due to infection with the metacestode of Echinococcus granulosus, is a silent zoonotic disease with worldwide distribution. The most common sites of cysts are the liver and lung. Hydatid cyst not only may remain symptomless for years but also may show pressure symptoms due to the growth, rupture to the neighboring structures, or becoming contaminated with infection.}

**Dear Editor,**

—

6. Pollaris G, Sabbe M. Reverse triage: More than just another method. Eur J Emerg Med 2016;23:240-7.

5. Christian MD, Loutfy M, McDonald LC, Martinez KF, Ofner M, Wong T, et al. Possible SARS coronavirus transmission during cardiopulmonary resuscitation. Emerg Infect Dis 2004;10:2.

4. Hollander JE, Carr BG. Virtually perfect? Telemedicine for Covid-19. N Engl J Med 2020. [doi: 10.1056/NEJMp2003539].

3. Sohrabi C, Alsafi Z, O’Neill N, Khan M, Kerwan A, Al-Jabir A, et al. World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). Int J Surg 2020;76:71-6.

2. Organisation Mondiale de la Santé-2018-Managing Epidemics Key Facts about Major Deadly d.pdf. Available from: https://www.who.int/emergencies/diseases/managing-epidemics-interactive.pdf (20). [Last accessed on 2020 Mar 16].

1. Hydatid cyst not only may remain symptomless for years but also may show pressure symptoms due to the growth, rupture to the neighboring structures, or becoming contaminated with infection.