Patients suspected or confirmed to have Pneumonia

RECOMMENDATIONS BASED ON THE APPROACH IN OUR AMBULATORY CARE CENTER

Criteria for monitoring an outpatient suspected case of COVID-19 pneumonia (confirmed or not) NOT requiring hospitalization[1]:

- CURB 65 * <2 points (* CURB: confusion, urea> 7, RR> 30 / min, SBP <90mmHg or DBP <60mmHg, age> 65 years)
- and Absence or no increase in oxygen requirements
- and RR <20 / min
- and stable comorbidities treatable on an outpatient basis
- and Possibility to seek emergency help quickly (no social isolation)
- Possibility of respecting confinement measures at home[2]

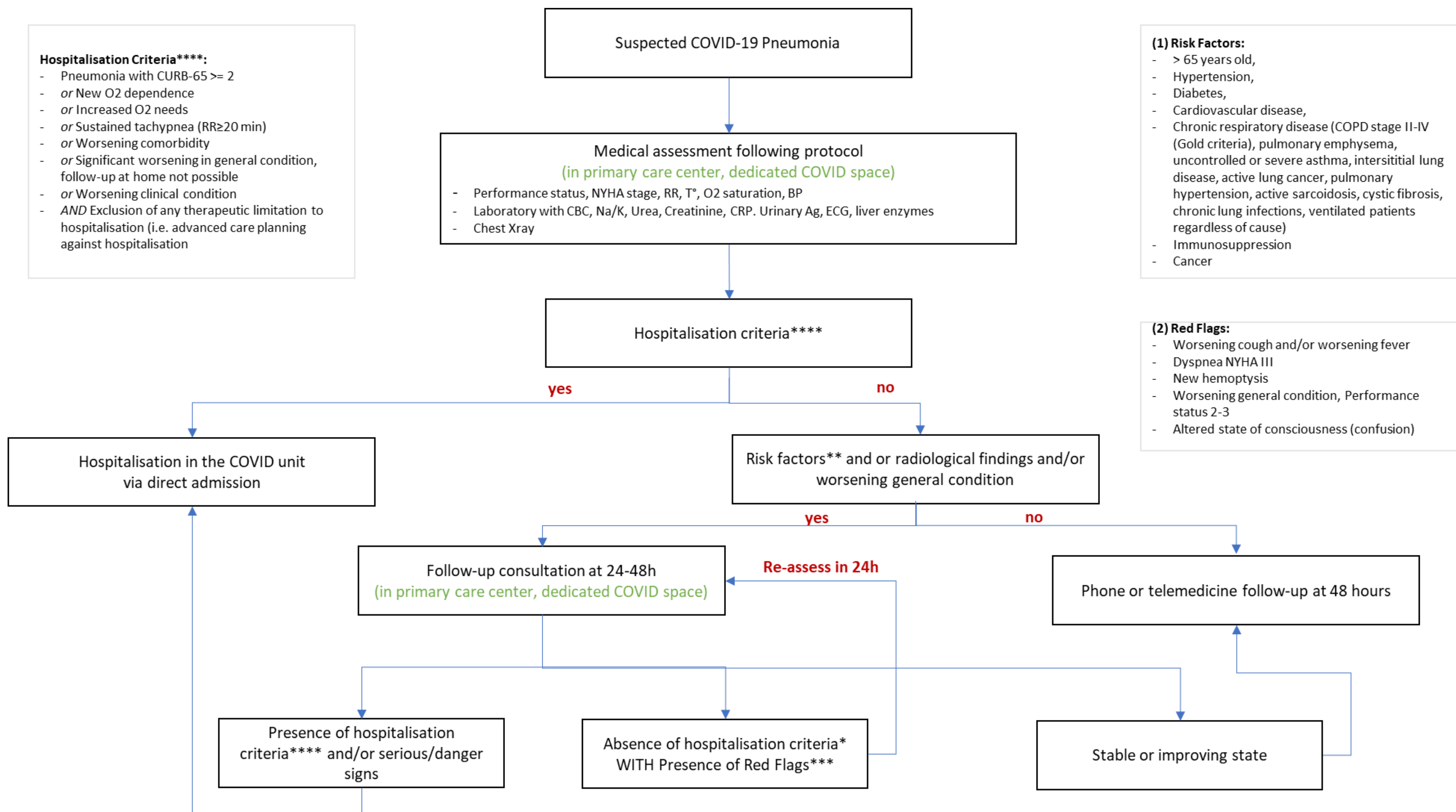
Protocol for the ambulatory management of COVID-19 suspected or confirmed patients with pneumonia:

Patient with suspected pneumonia who does not meet the criteria for hospitalization but who has risk factors and / or radiological infiltrate and / or deterioration in general condition.

1. History and physical exam: document performance status ** and NYHA stage *** if dyspnea.
2. Laboratory with CBC, Na / K creatinine urea, liver enyzmes test, CRP, ECG (if available), Chest x-ray[3,4]
3. Put on empirical antibiotics if one or more of these criteria are present[5,6]
   a. Inflammatory syndrome with CRP> 100mg / l
   b. One-sided "bacterial-like" radiological findings on standard radio
   c. Immunosuppressed patient and / or chronic lung disease: the clinical and biological threshold for the introduction of antibiotic therapy must be lower in these cases
4. Choice of antibiotic therapy:
   a. Amoxicillin 1g 3x / d per os if age <65 years and absence of comorbidities, Amoxicillin / Clavulanate 1g 3x / d per os if> 65 years and / or comorbidities.
   b. If penicillin allergy and contraindication to all beta-lactams: doxycycline 100mg 2x / d.
   c. If penicillin allergy but possible cephalosporins: cefuroxime 500mg 2x / d
   d. Duration of treatment: 5 days [7]. The continuation of antibiotics should be re-evaluated according to the overall clinical condition of the patient and the microbiological results. Antibiotics stopped on D3 if clinical improvement and positive SARS-CoV-2 PCR RT.
   e. If SARS-CoV-2 RT-PCR negative and radiological findings consistent with pneumonia, smear for Chlamydia pneumoniae and Mycoplasma pneumoniae and consider the introduction of doxycycline 100mg 2x / d.
5. Prevention of ambulatory venous thromboembolic disease in the event of COVID 19[8]
   a. Stimulate mobility and hydration.
   b. No indication for pharmacological thromboprophylaxis, except in patients with symptomatic COVID-19 infection and personal history of VTE (pulmonary embolism, deep vein thrombosis), and / or active neoplasia or during treatment
   c. Molecule of choice: low molecular weight heparin, for example enoxaparin 40mg 1x / d (if GFR> 30ml / min). Duration: minimum 6 days and until resolution of the acute infectious episode.
   d. Schedule a 24-48 hour follow-up appointment to assess the clinical condition in the ambulatory care center (In our center - Dedicated unit for outpatient monitoring of patients with COVID-19)
6. Special cases: patients with COPD or asthma

   a. Asthma: continuation of usual treatment. If systemic corticosteroids are introduced during COVID-19 infection, consider the minimum effective dose (max 0.5-1mg / kg) and rapid withdrawal (<3 days).
   b. COPD: Given the high risk of pneumonia, rapid withdrawal from inhaled corticosteroids if possible. The indication for systemic corticosteroids in the exacerbation of COPD is to be evaluated on a case-by-case basis and corticosteroids should be avoided in non-severe exacerbations and in cases of suspected associated pneumonia.
   c. In both cases, if a pneumonia is suspected with pathological chest X-ray, do not introduce systemic corticosteroids (unless otherwise advised by pulmonary specialist)

ALGORITHM IN CASE OF PNEUMONIA



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COVICARE

PROTOCOL TO EVALUATE PATIENT IN CASE OF SUSPECTED OR CONFIRMED PNEUMONIA

Risk factors :

- ☐ Age > 65 years
- ☐ Hypertension
- ☐ Diabetes
- ☐ Cardiovascular disease
- ☐ Chronic respiratory disease
- ☐ Immunosuppression
- ☐ Cancer under treatment
- ☐ Pregnancy
- ☐ Environnement psychosocial particulier (isolement, manque d'encadrement, etc.)

COVID status if tested/known:

- ☐ COVID +
- ☐ COVID –

History :

Physical exam

Vital signs :

BP …. Saturation …. RR ….. T°….. Peak Flow (if available and if known respiratory condition)….

General state

Cardiovascular exam

Pulmonary exam

Attitude:

☐ Patient stable or improving without serious/danger signs or hospitalization criteria****

Follow-up by teleconsultation at 24 hours

☐ Patient without hospitalization criteria or serious/danger signs but presence of red flags

New assessment within 24 hours, depending on red flag, assessment can be done through a repeat home visit (checking parameters), a visit to the ambulatory care center for further investigation or close monitoring by teleconsultation

☐ Patient with hospitalitation criteria or serious/danger signs

Transfer to specialized COVID-19 Hospitalization unit

ANNEXES

Symptoms (based on local recommandations)

Symptom	Serious/danger signs	Clinical red flags	Frailty criteria
Cough		Worsening cough	
Fever		Fever > 38.5 C, worsening or not responding to medication	
Dyspnea	Audible breathing difficulty (unable to make full sentences, audible wheezes, broken sentences, witness describing the situation) NYHA stage IV	Clear breathing difficulty felt, interfering with activities of daily living (eating, climbing stairs, showering NYHA Stage III	
Chest pain		Moderate to severe chest pain	
Myalgia			
Hemoptysis		New hemoptysis	
Condition (performance status tool)*	Worsening general condition (unable to stand up) Performance status > 3	Worsening general condition (fatigue) Performance status 2-3	
Level of consciousness	Altered level of consciousness (confusion) Vital signs and parameters if available: Pulse <40,> 130bpm, Systolic blood pressure <90 or> 180mmHg, SaO2 <93%, GCS <15)	Altered level of consciousness (feeling faint, fatigue)	
Anxiety			High level of anxiety
Management of daily life			Special psychosocial environment (isolation, lack of help, etc.) Unable to care for loved ones, social needs

Performance status according to WHO :

Fully active, able to carry on all pre-disease performance without restriction	0
Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work	1
Ambulatory and capable of all selfcare but unable to carry out any work activities; up and about more than 50% of waking hours	2
Capable of only limited selfcare; confined to bed or chair more than 50% of waking hours	3
Completely disabled; cannot carry on any selfcare; totally confined to bed or chair	4
Dead	5

Dyspnea according to NYHA stages :

- Stage I - No symptoms and no limitation in ordinary physical activity, e.g. shortness of breath when walking, climbing stairs etc.
- Stage II - Mild symptoms (mild shortness of breath and/or angina) and slight limitation during ordinary activity.
- Stage III - Marked limitation in activity due to symptoms, even during less-than-ordinary activity, e.g. walking short distances (20—100 m).Comfortable only at rest.
- Stage - Severe limitations. Experiences symptoms even while at rest. Mostly bedbound patients

***Hospitalization criteria in our center:**

- Pneumonia with CURB-65 >= 2
- *Or* New oxygen requirements
- *Or* Increase in oxygen requirements
- Or Increased sustained respiratory rate (RR > 20)
- *Or* Deteriorating comorbidities
- *Or* Major worsening in general condition, inability to stay at home or deteriorating clinical state
  And Absence of limitation to hospitalization (i.e: advanced directives refusing hospitalization).

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