

Therapeutic care proposals for elderly Covid-19-positive patients (not in intensive care units)

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GENERAL CONSIDERATIONS

The Covid-19-positive over 75 population can be characterised by:

- Multiple morbidities
- Cardiovascular comorbidities (hypertension, diabetes, atrial fibrillation, ischemic cardiopathy, stroke) or respiratory comorbidities (COPD)
- Atypical symptomology (including nausea, vomiting, diarrhoea, falls, confusion)

Elderly patients are at major risk of the following:

- Death
- Respiratory distress/ARDS
- Cardiovascular complications, arrhythmia, myocarditis, thrombosis-related complications in both arteries and veins
- Dehydration and poor nutrition
- Loss of autonomy.

The amount of time between patients testing positive and symptoms appearing should be reported. Elderly patients in hospital should remain in the service where they are receiving acute care until D7-D10 (Covid-19 symptoms frequently become aggravated around D7-D8) or up to 48 hours in the event no aggravated symptomology appears after this date (cf. APHP Lifting Confinement for Elderly Covid-19 Patients explanatory note).

Despite the severity of symptoms most elderly Covid-19 patients will receive treatment and care outside of intensive care units owing on the one hand to the very poor prognosis for this population in terms of managing Covid-19-related ARDS and on the other hand due to overuse of intensive care beds meaning very strict criteria are in place concerning who would benefit most from their use.

Nevertheless, four major points should be borne in mind here:

- Contact with intensive care services should not be limited to putting forward the transfer of patients with no major comorbidities or discussing care strategies.
- Differentiation must be made between intensive care for ARDS - and the very bleak outlook for this condition in this population - and access to a USIC (Cardiological Intensive Care Unit), for a coronary angiography for example, where the outlook for patient improvement is higher.
- The patient's will - either as expressed directly, via advance instructions or as stated by a trusted third party or loved ones - should be included in each file.
- The decision to resuscitate or not resuscitate the patient should be included in each file. This decision will be made by the college of doctors (such as in the case of patient refusal, no major guidelines being in place, unreasonable obstinacy).

Furthermore and due to the major inflow of patients in Accident and Emergency and the subsequent oversaturation of not being able to properly receive patients in intensive care services, difficulties in receiving patients from care centres should be anticipated. It should be noted here that care centres do not have the means required to manage these sorts of patients whilst also noting that not all care centre patients have multiple morbidities. Care procedures for care centre patients should therefore be further developed given the current situation.

INITIAL REPORT

An initial report should be taken and adapted to each patient:

- Full blood count
- CRP
- PT, PTT, fibrinogen
- Ferritin, albumin
- Blood electrolytes, urea, creatinine, magnesium, SPEP
- Transaminases, gamma-GT, alkaline phosphatases, bilirubin
- CPK, LDH
- ECG with QT interval measurement

The following may potentially be added after clinical assessment of the patient:

- Blood gas levels, depending on patient background: COPD, discordant O2 sat readings - patient clinical condition, signs of hypercapnia (confusion, hypertension, flapping tremor, etc.)
- Haemoculture and cytobacteriological urine test for febrile patients
- Lung X-ray or chest CT scan without injection
- Chest angio CT scan if pulmonary embolism suspected
- Other - multiplex PCR testing, antigenuria testing (particularly if patient is clinically suspected of being Covid-19-positive but the SARS-CoV-2 PCR test comes back negative)
- Procalcitonin
- Troponin levels based on ECG results
- BNP/NT-proBNP

As part of targeted pre-therapeutic treatment systematically consider the following as well:

- Analyse prescriptions given for habitual treatment; list those treatments which prolong the QT interval
- Take advance instructions from the patient, where applicable.
- Ensure the patient has named a person of trust.
- Assess creatinine clearance
- Take ECG QT intervals

THERAPEUTIC MEASURES

• General measures

- **Patient mobilisation:** inasmuch as the patient can get up and move around, recommend them walking around the room on a daily basis to prevent orthostatic hypotension.
- **Compression wrap:** recommend having the patient wear a compression wrap as a prophylactic measure for deep vein thrombosis; this wrap should not create an obstacle to monitoring support points and for the appearance of marbling.
- **Screening for swallowing disorders** by interviewing patients and conducting a water test to prevent the risk of ingested materials going down the wrong route, as this may be a severe complication whenever the patient has experienced breathlessness in the past. Adapt medication doses, hydration by mouth and food administration.
- **Psychological support:** prevent anxiety and depression caused by isolation and the known high risk of infection occurring by having caregivers provide psychological support.
- **Ensure the patient remains in contact with the outside world** by helping patients set up a phone line (mobile phone with charger or hospital landline).
- **Keep the patient's family informed of development** in the event visits are not authorised: following the patient's admission to hospital vital signs being compromised and risk of deterioration are considerably high. Inasmuch as possible provide daily updates on the patient's condition, phone numbers for a point of contact family member or person of trust should be taken and should be easily accessible.

• Specific considerations concerning aspects of therapeutic care

- **Oxygen therapy** for patients experiencing breathlessness and/or where O₂ sat levels are under 92% with the target of getting this up to 95%, except for those patients with chronic respiratory failure. If oxygen amounts required are over 9l/min then use a high concentration mask. For end-of-life patients there is no real point in keeping oxygen over 4l/min due to other combined symptomatic treatments.
- **Do not give aerosols** except for those asthma patients who actually require them. In this case caregivers should wear FFP2 masks when in the room.
- **For** patients with thrombosis who do not immediately withdraw anti-thrombotic treatment implement a prophylactic system with preventative LMWH (such as enoxaparin 4000 IU SC) in the event the patient's regular anticoagulant treatment cannot be obtained.
- **Habitual cardiovascular treatment:**
 - o Weigh up as best as possible the benefits/risks of keeping patients on medication, changing the dose or considering withdrawal.
 - o Following admission or once the patient's blood pressure drops, discuss suspending anti-hypertension treatment and more specifically converting enzyme inhibitors (CEIs) and sartans.
- In the event of fever, polypnoea or drowsiness occurring and **due to risk of dehydration:**
 - o Suspend diuretics, CEIS and sartans.
 - o If the patient's cognitive state so allows, implement continuous intravenous fluid therapy measures (type B26 1500 cc every 24 hours, to be adapted) or nocturnal subcutaneous fluid therapy (type G5 with 4 g of NaCl 1000 cc per night) if the patient is uncooperative.
 - o Potassium supplements (contraindicated subcutaneously) should only be made after taking into account the patient's kidney function.
- **For poorly tolerated pain or fever:** paracetamol at a dose of 3 g every 24 hours. NSAID prescriptions are contraindicated with no exceptions.
- **Monitor transit of food** and use laxatives such as Movicol 2-0-0 or suppositories such as Eductyl once daily if oral administration is difficult or ineffective.
- Polypnoea is an adaptive mechanism for dyspnoea, so should be left as is. **Morphine derivatives** should be used:
 - o Temporarily and at small doses as part of the treatment of symptoms (morphine intravenously at 0.2 to 0.4 mg/hour).
 - o As part of palliative care over and above other treatment as required.
 - o And should be given when prescribing two types of laxatives (eg. Movicol and Eductyl).
- Diabetic patients becoming unstable may justify the early prescription of blood sugar test monitoring protocols and insulin therapy. Suspending metformin should be mooted whilst continuing on oral antidiabetics should be assessed on a case by case basis, bearing in mind the major risk of acute renal failure and dehydration - so haemodynamic instability - occurring.
- Whenever patients experience haemodynamic instability - with haemodynamic fluctuations and marbling occurring -

another aetiology other than Covid-19 should be sought. The use of intravenous fluids may be recommended based on the patient's cardiovascular condition (spot administration of NaCl 9/1000 - 250-500 ml to be adapted). The lever sign test may be performed in the patient's room to assess whether or not the patient is actually hypovolemic.

- Regular ECG monitoring should be performed.
- Preventative measures and treatments for confusion are described below.

Preventing confusion from occurring

- 1- For all patients: do not allow immediate withdrawals from hypnotics and benzodiazepines to occur. As such make sure hypnotic/benzodiazepine use is covered during the patient interview. Prescriptions should be renewed for the exact same drugs and doses for patients taking daily doses and particularly those who have been on the drugs for a long time.
- 2- Generally speaking avoid those medications which are normally given as they are hydroxyzine-type anticholinergics (and associated with QT interval prolongation).
- 3- For patients with a history of anxiety and who are experiencing feelings of anxiety upon admission a one-off administration of benzodiazepines should be given, prioritising those with short half-lives: half a tablet of oxazepam 10 mg (so 5 mg) where required.
- 4- For related sleeping disorders, start off with 3 mg of melatonin given when the patient goes to bed, which may be doubled after seven days. Possibly consider giving mianserin 10 mg evenings.

Treatments for confusion

- 1- Check and then check again the patient is not at risk of withdrawal syndrome.
- 2- The most frequent course of action will be to tolerate the confusion and taking note of any triggers (pain, breathlessness, dehydration, globus and faecaloma, etc.), not adding any further treatment until the patient and those around him/her are no longer at risk.
- 3- If the source of the confusion is predominantly anxiety, prioritise benzodiazepine administration. This could be oxazepam 5 mg mornings and evenings or three times daily or, where oral administration is not possible, then midazolam 0.2 mg subcutaneously every four hours.
- 4- If the source of confusion is predominantly sadness and depression, the use of classic serotonin uptake inhibitors should be considered whilst being in mind the major risk to QT interval prolongation* (particularly in the cases of citalopram and escitalopram) as well as assessing the benefits/risks administration would entail.
- 5- If the source of confusion is predominantly delirium (hallucinations, misinterpretation of events), the use of classic neuroleptics should be considered whilst being in mind the major risk to QT interval prolongation* as well as assessing the benefits/risks administration would entail. Advice should be sought concerning the use of risperidone 0.5 mg orally (as a priority) or olanzapine 2.5 mg IM.

• Antibiotics

Antibiotic treatment should take into account the following:

- Patient allergies
- Antibiotics taken recently or semi-recently (patients are occasionally hospitalised as soon as the Covid-19 infection is discovered).
- The existence of pneumonia per clinical and X-ray findings
- The infection timeline: antibiotic administration may be delayed in patients who are positive for contact but are asymptomatic, with antibiotic courses starting whenever fever and/or other lung function or clinical signs appear.
- An example follows below, however the protocol for each centre should prevail:
 - Amoxicillin - clavulanic acid 1 g three times daily or ceftriaxone 1 g daily intravenously + azithromycin 500 mg on D1 then 250 mg daily thereafter
 - For 3-5 days
 - Bear in mind azithromycin administration has an associated risk of QT interval prolongation*.

NOTICE CONCERNING SPECIFIC TREATMENTS

Staying up-to-date concerning the latest HCSP recommendations is vital.

Critical aspects to take into account for the geriatric population:

- data are often not available.
- Involvement in therapeutic trials is also an imperative for elderly patients, with priority given to the use of specific treatments as part of the framework of the patient being recruited for a specific protocol.

More specifically concerning chloroquine:

- No current proof concerning clinical relevancy.
- Considerable amounts of data are available showing it is tolerated well, however there are very few data for over 75s, ie. patients with underlying heart conditions who are frequently polymedicated.
- Elderly Covid-19-positive patients frequently present with cardiovascular conditions and are polymedicated, entailing a higher risk of interactions with other medications and aggregated risk of QT interval prolongation.

- Elderly Covid-19-positive patients frequently present with a number of cardiovascular complications as well as electrolyte-related disorders such as hypokalemia.
- Isolation conditions patients must be kept under makes crucial QT interval monitoring (via ECG) difficult.
- We should however bear in mind those drugs which are contraindicated with chloroquine:
 - o Formal contraindications: combination with citalopram, escitalopram, hydroxyzine, domperidone, piperazine - retinopathy
 - o Relative contraindications which may affect prescriptions made due to Covid-19 and where no scientific proof concerning efficacy is available: cardiopathies of any kind, arrhythmias of any kind, hypokalemia or low levels of magnesium which have not been corrected, spontaneous prolongation of the QT interval, bradycardia under 50 bpm, known G6PD deficiency, drugs which prolong QT intervals (anti-arrhythmic agents, tricyclics, neuroleptics), ciclosporin

**QT interval prolongation here refers to over 450 ms. <https://www.rfcrpv.fr/chloroquine-point-dinformation/>*

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