Canadian Cardiovascular Society

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GUIDANCE FROM THE CCS COVID-19 RAPID RESPONSE TEAM

Is it COVID-19 or Is it Heart Failure?

Management of Ambulatory Heart Failure Patients

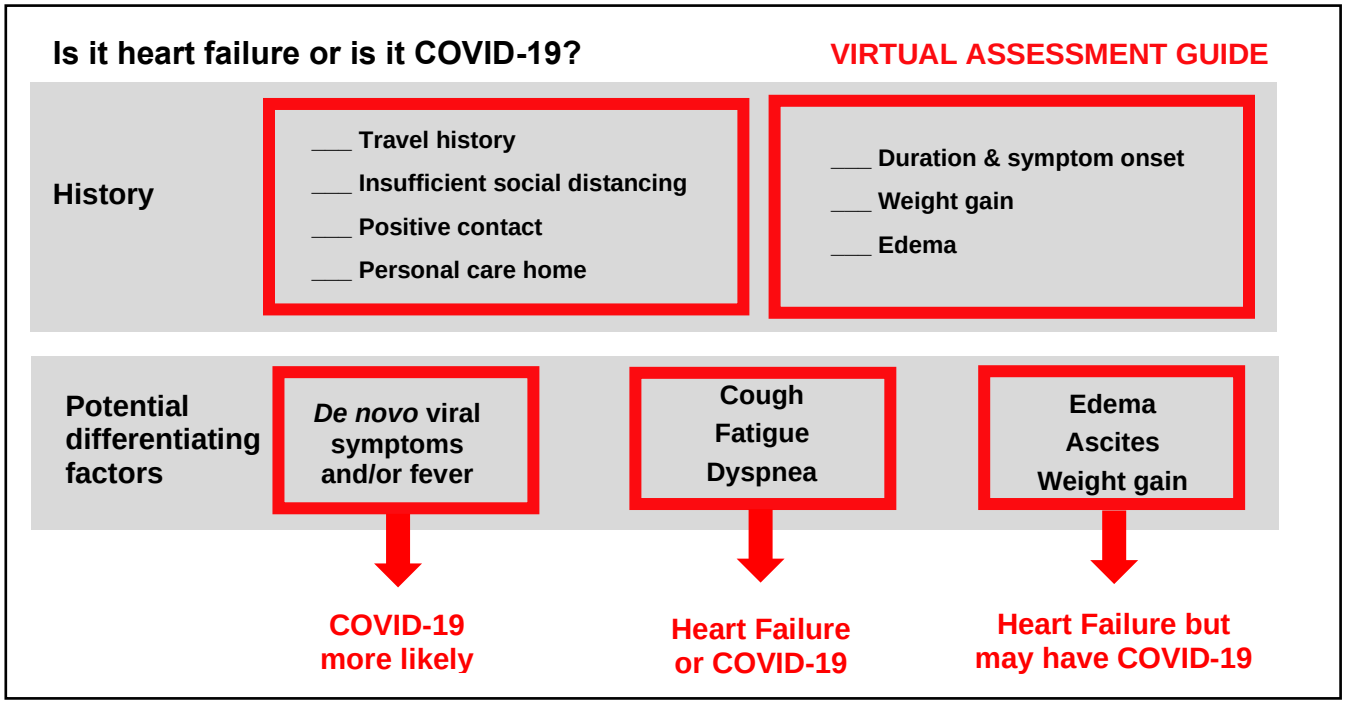
Introduction

To preserve healthcare resources and prevent vulnerable patients from being unnecessarily exposed to healthcare facilities and the Emergency Department (ED), healthcare practitioners are screening patients via **virtual** assessment (phone, telehealth or regionally available platforms), in order to determine the appropriate diagnostic and treatment approach. The following is simple, practical guidance on patient evaluation and use of laboratory testing.

Symptom evaluation

The following tool is designed to guide your clinical reasoning to differentiate the likely etiology of symptoms for a patient with known heart failure (HF). It has not been validated, and the final determination must be made using clinical judgement**. In cases of uncertainty, patients should be advised to attend a COVID-19 testing station and/or be assessed in person following institutional protocols for PPE use**

Features that would increase the probability of COVID-19 versus HF exacerbation
1. Increased individual risk of contracting COVID-19. Risk can be estimated using the following criteria: • Degree of isolation and social distancing • Amount of community spread of COVID-19 in local community • Traditional COVID-19 risk factors (e.g. travel/exposure to COVID-19 positive contact, recent large groups, personal care homes)
2. Presence of fever and/or <u>de novo</u> viral symptoms (cough, myalgia, fatigue). Of note, varying datasets suggest a fever is present in 50-80% of patients.
3. Absence of typical features of HF • Weight gain (2lbs in 2 consecutive days or 5lbs in 1 week) • Determine the patient's typical pattern of presentation and screen for key differences. For example: ○ Shortness of breath is not reminiscent of previous exacerbations of HF ○ Pattern of symptoms different than other exacerbations (i.e. paroxysmal nocturnal dyspnea (PND) without ankle or abdominal swelling)
4. Lack of response to appropriate HF therapies (i.e. diuretics)
5. Natriuretic peptides may not differentiate HF from COVID-19. Evidence to date suggests that hospitalized patients with COVID-19 can have elevated troponin and BNP levels.
6. Home-based blood pressure and heart rate monitors including oximetry from personal devices can not reliably differentiate between COVID-19 and HF. Furthermore, thoracic impedance from implantable cardiac devices may be elevated in consolidation as well as congestion.
7. Follow-up communication to assess for symptom resolution or progression at 24-48 hours is encouraged and as clinically warranted.



Laboratory Testing

The following process related to laboratory testing for HF patients is proposed. Clinical judgement is required to apply this approach, based on patient symptoms, signs and risk.

1. Can routine laboratory testing be delayed based on clinical findings until public health restrictions have been removed?
Criteria: • Laboratory testing done within 6 months • Recent serum electrolytes and creatinine (Cr) are within normal range or historically stable • No increase in serum Cr > 30% in the last 6 months unless a clear cause is identified (e.g., infection, over-diuresis, vomiting and/or diarrhea) • No recent medication changes that would affect Cr/electrolytes.
If the patient meets these criteria, order laboratory testing after public health has removed restrictions for social distancing (tentatively in 3 months).
2. Is laboratory testing required for chronic disease management or to prevent an ED visit?
Criteria: • Known history of abnormal electrolytes requiring intervention • Increase in Cr > 30% in the last 6 months without a clear cause identified (e.g., infection, over-diuresis, vomiting and/or diarrhea) • Recent new medications that could affect Cr/electrolytes • Recent frequent ED visits and/or hospital admissions • Symptoms suggestive of electrolyte imbalances as determined by physician or nurse practitioner assessment including muscle cramps and palpitations
If the patient meets these criteria there are two options to obtain laboratory testing: a) Arrange in home laboratory testing if available in the patient's area with appropriate precautions by the provider b) Send patient to a local laboratory presuming that rigorous precautions are in place. Ask patient to do online booking or call the laboratory to book an appointment to minimize exposure

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The CCS COVID-19 Rapid Response Team

Dr. Andrew Krahn, Vancouver
President, Canadian Cardiovascular Society

Dr. David Bewick, Saint John
Dr. Chi-Ming Chow, Toronto
Dr. Brian Clarke, Calgary
Dr. Simone Cowan, Vancouver
Dr. Chris Fordyce, Vancouver
Dr. Anne Fournier, Montreal
Dr. Kenneth Gin, Vancouver
Dr. Anil Gupta, Mississauga
Dr. Simon Jackson, Halifax
Dr. Yoan Lamarche, Montreal
Dr. Benny Lau, Vancouver
Dr. Jean-François Légaré, Saint John
Dr. Howard Leong-Poi, Toronto
Dr. Samer Mansour, Montreal
Dr. Ariane Marelli, Montreal
Dr. Ata Quraishi, Halifax
Dr. Idan Roifman, Toronto
Dr. Marc Ruel, Ottawa
Dr. John Sapp, Halifax
Dr. Gurmeet Singh, Edmonton
Dr. Gary Small, Ottawa
Dr. Ricky Turgeon, Vancouver
Dr. Sean Virani, Vancouver
Dr. David Wood, Vancouver
Dr. Shelley Zieroth, Winnipeg

Canadian Cardiovascular Society Staff

Nahanni McIntosh
Linda Palmer
Carolyn Pullen