Canadian Journal of Cardiology 39 (2023) 1149–1151

Training/Practice
Health Policy and Promotion

How and Why to Set Up a Pericardial Disease Clinic

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Pericardial diseases have a high burden on the health care system. Acute pericarditis has an incidence of 27.7 cases per 100,000 population annually, accounting for 0.1% of hospital admissions and 5% of emergency room (ER) visits for chest pain.[1] A lack of structured and timely follow-up is a major issue resulting in frequent ER visits, increasing health care burden and costs, especially for recurrent and refractory cases. To improve care, establishing nurse-led clinics may have positive outcomes, particularly in cardiovascular diseases.[2-4] The primary purpose of this paper is to introduce a health care structure for pericardial diseases to improve overall outcomes and decrease the health care burden.

Proposed Structure for Nurse-Led Pericardial Disease Clinics

The first step in establishing a nurse-led pericardial disease clinic (PDC) is to assess the need for such a clinic. This involves reviewing the local prevalence and incidence of pericardial diseases, identifying gaps in the current health care services, and determining the resources required to run the clinic effectively. Once the need for the clinic has been established, the next step is to develop a clinic protocol. This protocol should outline the roles and responsibilities of the health care team members, patient referral process, patient assessment and management, follow-up care, and quality improvement measures. It should also define the scope of the clinic, including the types of pericardial disease cases that will be managed. A clear and accessible referral process should be established, outlining clear criteria for referrals, methods of communication between health care providers, and timely patient assessment and management.

One model of a specialised PDC in Canada is based in Montréal, affiliated with the Jewish General Hospital and McGill University (Figure 1). A trained nurse runs this specialised PDC under a cardiologist's supervision. The clinic looks after various pericardial diseases, including acute and chronic pericarditis, recurrent and refractory pericarditis, myopericarditis, constrictive pericarditis, and pericardial effusions. Our clinic receives 10 to 15 referrals monthly with 25 to 30 follow-ups per week in addition to 10 to 15 urgent re-evaluations for disease flare-ups or recurrences. Annually, there are a total of about 200 patients requiring interleukin-1 antagonists and about 5 to 10 cases of constrictive pericarditis requiring surgical pericardiectomy. For our centre's volume, there is value in investing in a dedicated clinic that would require a full-time job of 1 trained nurse or nurse practitioner. The addition of a secretary is important to help with the booking and scheduling aspects of patient care. Each centre should decide to establish a dedicated PDC based on their need.

Referral criteria for this clinic include the following: 1) all confirmed pericardial disease cases referred from our local centre (local ER, other cardiologists, and physicians from our centre), ranging from uncomplicated acute pericarditis to more complex constrictive cases; and 2) complicated pericardial cases from referral centres or cardiologists outside our health network, including recurrent and refractory pericarditis, myopericarditis, constrictive pericarditis, and chronic pericardial effusions. The timeline for patient assessment and management is determined on a case-by-case basis. For continuation of care, a dictated visit letter is transmitted via fax or electronic means to the patient's referring physician and/or family doctor with the patient's consent. Criteria for discharge from our PDC would be to no longer be on any treatment for pericarditis and no recurrences for 6 months off all treatment. Constrictive pericarditis cases requiring invasive procedures are usually discharged about 1 year after surgery.

The nurses are trained in clinical assessments, including history taking relevant to pericardial diseases, cardiovascular physical examinations, interpreting 12-lead electrocardiograms, and basic blood tests. A wide range of investigations

Received for publication January 23, 2023. Accepted April 30, 2023.

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See page 1151 for disclosure information.

https://doi.org/10.1016/j.cjca.2023.04.028

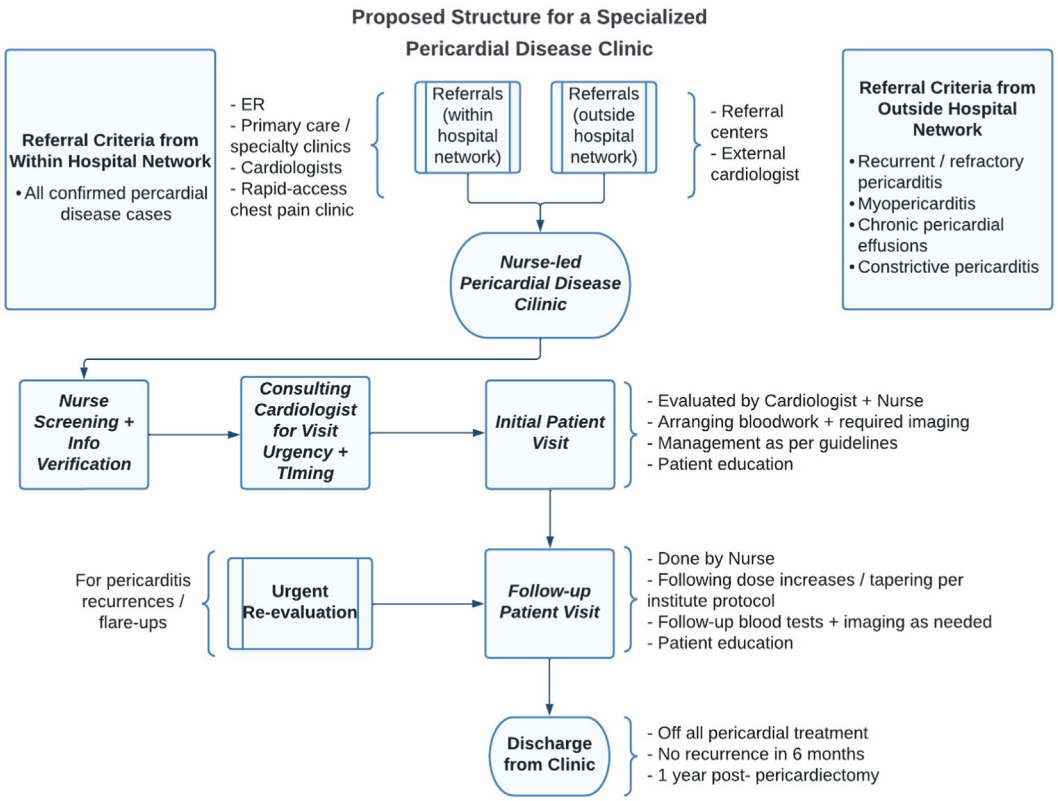

Figure 1. Proposed structure for a specialized pericardial disease clinic. ER, emergency room.

and treatments are often performed and completed, including blood testing, echocardiography, advanced cardiac imaging such as cardiac magnetic resonance (CMR) or cardiac computed tomography, and coronary angiography for selected cases. The clinic is also responsible for pharmacologic and nonpharmacologic interventions, namely, patient education and admission avoidance advice. The patients are treated and managed according to published pericardial disease guidelines.[1]

The clinic is set up so referrals are received from the local ER, cardiologists, and referral centres. The lead nurse or nurse practitioner receives the referrals weekly, contacts each patient, and verifies all the clinical data, including history, medications, blood tests, and imaging already completed. After discussion with the cardiologist, the urgency for each new referral and the first consultation date are determined. Patients referred from the ER who have worsening symptoms would be seen in 24 to 48 hours, especially if they were never seen by a cardiologist before. ER referrals who are stable or improving would typically be seen in 1 to 2 weeks. Referrals from other centres or cardiologist are typically seen within 3 to 4 weeks. The expedited cases are usually reserved for patients with refractory symptoms, elevated inflammatory markers, or evidence of constriction on imaging. Occasionally, pericarditis patients from the ER end up in our rapid-access chest pain clinic. Once these patients are identified, they are sent to the nurse-led PDC.

We have a panel of predetermined blood tests depending on the reason for consultation (acute or recurrent pericarditis, myopericarditis, constrictive pericarditis) usually done before the first visit. The blood tests include complete blood count, serum creatinine, liver transaminases, random glucose, C-reactive protein, troponins for myopericarditis, coagulation profile, and screening for hepatitis B and C, latent tuberculosis, and human immunodeficiency virus. The cardiologist and nurse/nurse practitioner assess the patient on the first consultation visit, and a treatment plan is decided according to pericardial disease guidelines.[1] Patient education is also provided in addition to emergency and admission avoidance advice. Follow-up visits are run by the trained nurse under the cardiologist's supervision, usually 1 month after the initial visit but it can be in 1 to 2 weeks in more urgent cases that are symptomatic and with rising inflammatory markers. The first contact for the patient is the PDC or PDC nurse for further inquiries or guidance. When patients have symptom recurrence or new symptoms requiring urgent attention, they have a number and e-mail for contacting the specialised nurse. As a result, a rapid intervention in the clinic or by telemedicine can usually avoid an unnecessary ER visit.

There should be established protocols on dose increases and tapering regimens according to institutional practice so that the nurse can instruct the patient according to the protocol in the monthly follow-ups. When there is a need for therapy escalation, for example, nonsteroidal antiinflammatory drugs to corticosteroids or corticosteroids to interleukin-1 antagonists, the trained nurse, in addition to the cardiologist, would reassess the patient and start therapy with close follow-up. For patients on corticosteroids, follow-ups are usually scheduled every month. Patients on anakinra are scheduled for monthly follow-ups for the first 2 months, then

every 3 months during the tapering phase. Patients are educated on a strategy for dose and frequency adjustments of corticosteroids or anakinra in case of recurrences that may happen on a weekend or statutory holiday. Patients requiring dose changes are typically seen monthly, whereas patients on stable doses are typically seen every 3 months or so, with all patients having access to the clinic for any developing issues. Patients with established constrictive pericarditis, especially chronic constriction, would be referred to cardiac surgery early in their disease course, managed with diuretics as needed, and followed as in heart failure (HF) clinics. In cases where it is difficult to determine clear relapses, blood testing and imaging with echocardiography and CMR can be arranged by consulting the cardiologist.

The Evidence Behind Nurse-Led Specialty Clinics in Cardiovascular Clinics

Nurse-led specialty clinics have been adopted as a potential solution to enhance the care of several cardiovascular diseases. One study looked at the impact of nurse-led syncope clinics and found that patients who are followed up in these clinics have reduced mortality compared with those who are not seen.[2] Nurse-led atrial fibrillation clinics have shown promise in improving patient symptom management, quality of life, and reduced health care utilisation and costs.[3] One study looking into the impact of nurse-led atrial fibrillation clinics found reduced mortality, increased medication adherence, quality of life, and guideline adherence compared with usual care.[3] Europe has a long tradition of providing follow-up in nurse-led HF clinics, providing clinical assessments, patient education, psychosocial support, and working alongside a physician who helps make medical decisions or decisions to admit to a hospital.[4] A recent study conducted on patients from a large Swedish HF registry found that planned referrals to nurse-led HF clinics were associated with a reduced risk of mortality. This finding is in line with previous studies. However, the study did not find evidence that such referrals reduce the risk of HF hospitalisation. This is a contentious area with conflicting evidence, as some studies have shown a reduction in hospitalisation risk and others have been inconclusive. Differences in interventions, settings, patient populations, and the fact that some hospital admissions may be required for symptom or quality of life benefits may account for this inconsistency.[4] Currently, there are international and Canadian guidelines recommending incorporating multidisciplinary clinics, including nurse-led specialised clinics, to provide a standardised approach to the diagnosis and treatment of various conditions.[3,5] Given the benefit of nurse-led specialty clinics in multiple areas of cardiology, including syncope, atrial fibrillation, and HF, we can extrapolate that the benefit could be extended to nurse-led PDCs, especially in tertiary or quaternary centres with a relatively high volume of cases.

Conclusion

Nurse-led specialty clinics have shown positive outcomes in various cardiac illnesses, inferring the potential benefits of nurse-led PDCs. These clinics should be established in tertiary or quaternary centres. It requires careful planning, organisation, collaboration among health professionals and prioritisation of patient-centred care. We provide a novel structure of how such a clinic would look practically and a proposal for how it should be run. Initially, the clinic can operate within an HF clinic's existing framework, utilising experienced nurses to manage urgent patient-related issues. A dedicated PDC can be established as patient volume increases. We think that nurse-led PDCs would improve overall outcomes and decrease the health care burden and costs; however, further research is required to assess this.

Funding Sources

The authors have no funding sources to declare.

Disclosures

The authors have no conflicts of interest to disclose.

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