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## Editorial

## Transition of CRT clinic to telemedicine during the COVID-19 pandemic: A missed opportunity to optimized patients with heart failure with reduced ejection fraction? ☆



The COVID-19 pandemic created an urgency to redefine the way we practice medicine. This was particularly true in cardiology, where it was unconceivable to just cancel the most fragile patients' appointment until the outbreak resolves. Hence many initiatives have been developed to overcome the possibility of physically evaluating our patients. In this issue of IJCHA, Zhao and colleagues report on their experience to pivot their in-person CRT clinic into a remote evaluation during the COVID-19 pandemic lockdown in Boston from March 18th 2021 to May 27th 2020 [1]. The study included only 43 patients, with a short follow-up of two months. Subsequently, with the release of socio-sanitary restrictions, the patients were reverted back to usual in-person visits, hence the short follow-up. They nevertheless demonstrated that rapid implementation of a novel telemedicine approach for remote multi-disciplinary care of CRT patients is feasible during crisis time, and their preliminary but largely unpowered assessment on clinical outcomes suggest it is also safe.

The Resynchronization and Advanced Cardiac Therapeutics (ReACT) Program at Massachusetts General Hospital (MGH) is an established multidisciplinary program including subspecialists from the heart failure, electrophysiology, and echocardiography services aiming to optimize care for HF patients with CRT devices. Unfortunately, like many initiatives started out of necessity like this one, global incorporation of multiple health care providers and data streams was sub-optimal, despite the opportunity offered by telemedicine visits. They tried to include key aspects of in-person experience into the virtual platform but with variable success. For example, a minority of patients complied with the directives, with only 46% of patients weighted themselves and 25% had their BP measured before the Zoom encounters. The authors acknowledged these limitations and suggest it might reflect of a lack of basic telemedicine infrastructures at patients' home at the start of the pandemic, when this was relatively new to them.

More troublesome is the low adherence to guidelines derived medical therapy (GDMT), reflected by the background pharmacological therapy of these patients before implantation of a cardiac resynchronization therapy (CRT) device; it was indeed far from optimal in term of percentage of ARNI (37% in 2020 and 25% in

2019), beta-blockers (88.4% in the remote and 79% in the in-person group) and MRA (34% and 15% respectively), while the percentage of patients receiving the novel sodium-glucose co-transporter inhibitor, SGLT2i, is not stated. These low numbers are not unusual as the CHAMP-HF registry reported less than 1% of patients being optimized on triple therapies, [2] while others have shown that good adherence to guidelines could be attained in a multidisciplinary specialized setting of an academic institution [3] not unlike what would be expected for MGH. This low adherence remains nevertheless worrisome since CRT-D are indicated on top of optimal GDMT; further, since the publication of the landmark primary-prevention RCTs nearly 2 decades ago, the medical therapies for HFrEF have significantly evolved, increasing in number and complexity [4].

Although the description of their set-up includes a HF cardiologist, this person seems to evaluate the patients only after the device has been implanted. This situation is complex and not unfrequently encountered in clinical practice; indeed, the implanting institutions are receiving specific request from referral physicians for devices consideration and may fear losing subsequent referral and/or offending their usual transfer path in a competitive environment. Consequently, many ICD/CRT implanting centers have chosen to refer their HFrEF patients for GDMT optimization only after device implantation, despite the fact that a quarter will improve their LVEF enough to be outside of range for ICD recommendation in primary prevention, and therefore avoid potential risks associated with devices implant (infection, lead displacement, inappropriate shock, tricuspid regurgitation and subsequent right heart failure, etc) in this fragile population.

One of the most difficult conundrums for the experts remains to discriminate the individual patient with a high likelihood of improving his/her LVEF on GDMT, above the LVEF 35% threshold for ICD indication. Regardless of the timing, either before or after CRT/ICD implant, with a number needed to treat of 3.9 to save one life over 2 years, every efforts should be made to optimize HFrEF patients on the four foundational therapy to improve their poor outcome [5].

Remote monitoring after CRT implantation is feasible, safe and was enjoyed by the patients who experienced this type of follow-up. Since tele-monitoring is expected to expand in the future, regardless of the status of the pandemic, key learnings can be derived from this small experience. First, improved coordination,

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whether virtual or in-person, between devices clinic and heart failure service appointments is warranted and should ideally be performed at the time of referral, before devices implantation. This coordinate effort will lead to improved adherence to GDMT and HF management and ultimately better outcome, together with possibly lesser number of implants and therefore fewer associated complications.

#### Keys learnings

Remote monitoring after CRT is feasible, safe and will expand. This study shows the need for improved coordination between devices and heart failure services to improved adherence to GDMT and outcomes, together with possibly fewer implants and therefore related complications.

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