

Telecardiology in the Time of Corona: Study About 112 Patients

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Abstract

Original Research Article

The heart patients represent an unfavorable field for coronavirus disease 19 (COVID-19), and therefore, any regular follow-up consultation, not urgent, represents a great danger to catch up with this fatal disease. According to this study, we propose telemedicine as a comfortable, safe and efficient way to follow up our cardiac patients remotely.

Keywords: Telemedicine- heart failure- Covid 19- social networks.

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INTRODUCTION

The current circumstances of COVID 19 disease make elective consultation a risk factor for getting the infection, especially since the heart population represents a poor prognosis for COVID infection. However, a regular monitoring for cardiac pathologies is mandatory. We proposed a remote follow-up by telemedicine.

The Telemedicine is defined by the practice of medicine remotely using means of information and communications technology. Given the importance of clinical examination, cardiology is not very well suited to telemedicine. However, like in all medical

specialities, telemedicine facilitates and supplements clinical medicine.

MATERIALS AND METHODS

We report a descriptive study including 112 heart failure patients with impaired ejection fraction followed by telemedicine and social network messaging. The sex ratio of our patients is 1.1 (M / F) and the average age is 66.4 years.

Among our patients with impaired ejection fraction, 45% have an ischemic origin, 29% have valvular cardiopathy, 2% have hypertensive cardiopathy, 2% have left ventricular non-compaction cardiomyopathy, and 1% have post myocarditis dilated cardiomyopathy.

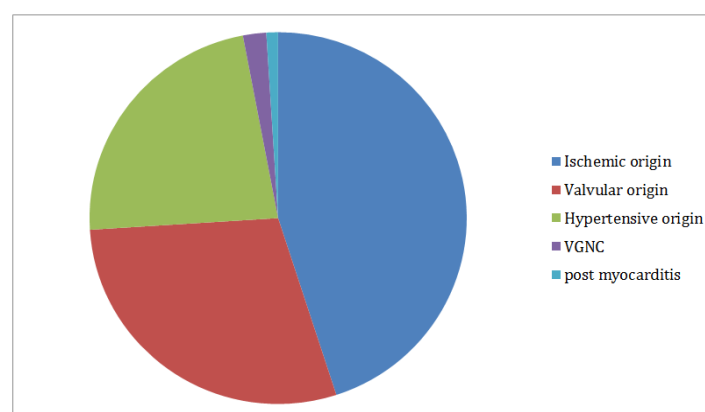


Fig-1: Etiologies of heart failure of our patients

RESULTS

After 45 days of confinement, we analyze the consultations received and the effectiveness of the treatment based on the clinical improvement of our patients. We received 404 consultations over 45 days

for us 112 patients, 24% (98) of the consultations involved questions regarding COVID and the risk of taking the treatment, 10% (41) of the consultations were related to Ramadan and the risk of youth for our cardiac patients and 66% (265) of the consultations.

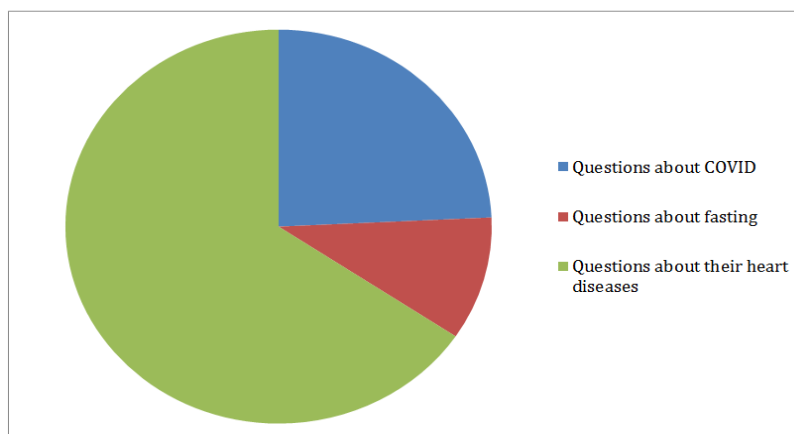


Fig-2: Consultations by telemedicine

Concerning consultations for their heart disease, 18% of our patients required a therapeutic adjustment; 30% needed to reinforce their hygieno-dietary measures, 12% of our patients needed a simple psychological support for psychosomatic manifestations, 38% of our patients remained asymptomatic under the same treatments and the same diet, yet 2 patients (1.78%) required a consultation at the hospital. No case of Covid has been recorded among our study population so far.

DISCUSSION

A recent Italian study has shown that the hospitalized patients with concomitant cardiac disease and COVID-19 have an extremely poor prognosis compared with subjects without a history of cardiac disease, with higher mortality, thrombo-embolic events, and septic shock rates [1]. In their review on follow-up by telephone or telemonitoring of heart failure (HF) patients, Inglis and al, show that telemedicine has an impact on all-cause mortality, with a significant reduction of 34% ($p: 0.0001$). This study showed a reduction in re-hospitalizations for HF of 20%, an improvement in the quality of life of patients, costs of care, and a good acceptability of the system [2,3].

In the meta-analysis of Anker and al., studies were analyzed as part of a comparison between the effects of telemonitoring compared to usual care (non-invasive telemedicine). In this work, telemonitoring showed the reduction of the following elements: all-cause mortality (10.4% versus 15.4%; $p=0.001$), admission to the hospital for all causes (47.2% versus 52.1%; $p = 0.02$), hospitalization linked to chronic HF (22.4% versus 28.5%; $p = 0.008$) [4,5].

Even by using simple means, telemedicine has shown its potential contribution in terms of mortality, morbidity, and in number of avoided hospitalizations. Its impact in terms of health economics is stated [6,7].

A close monitoring of patients improves the prognosis of chronic diseases and ensures the proper use of chronic treatments [7]. Through the experience of our study, we may be witnessing the birth of the «tomorrow's medicine». Indeed, in the field of chronic diseases, in terms of their epidemiology and the predictable deficit of time and resources, we need to monitor and educate better. Telemedicine based on social networks and messaging platforms is more comfortable for the treating physician than telephone calls.

CONCLUSION

Covid 19 revealed the value of computerized health systems and the importance of telemedicine, which even by simple means, represents an alternative to classical medicine especially in situations where the patient's movement represents a danger for him.

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