



Hs TROPONIN- I IN COVID-19

Medical Science

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ABSTRACT

Corona virus disease (covid-19) is a global pandemic. Covid-19 is caused by Severe Acute Respiratory Syndrome Corona virus 2 (SARS COV-2). Elevated cardiac troponin levels has been noted in a considerable proportion of patients. Patients with higher troponin levels were most likely to be admitted in Intensive care and showed higher in hospital mortality

KEYWORDS

covid-19, SARS COV-2, troponin I, heart failure, infection

INTRODUCTION

Corona virus disease (covid 19) is recognized in 2019 and has spread throughout the world [1]. As of September 2021 around 24,35,78,678 cases has been documented in the world and 3,37,65,502 were diagnosed in India. In many studies it has been reported that most of the patients would present with mild infection of the covid-19 disease. However, some patients presented with severe infection on admission and few cases with mild infection progressed to severe infection [2].It is important to discriminate accurately among subjects with covid 19 who have high risk of severe infection for the purpose of triaging and understanding the prognosis. There are many triaging tools for this. Hs Troponin-I is one of the important marker studied in association with covid 19 in our centre in 1100 patients and found to be significant marker for risk stratification for disease progression and prognosis. It also helped in guiding the therapy.

OBJECTIVE

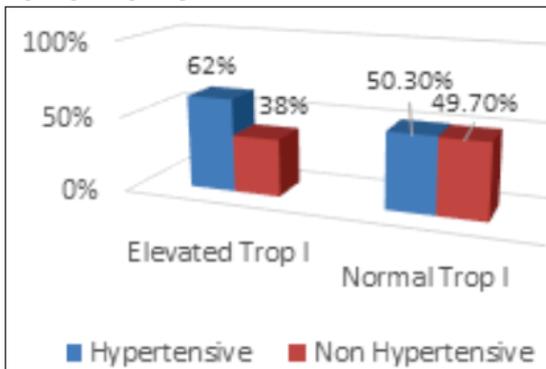
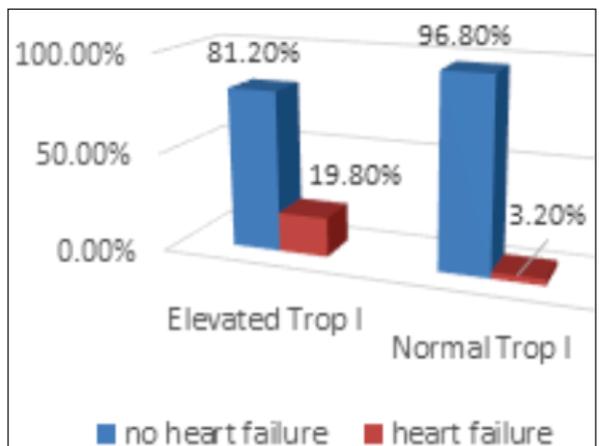
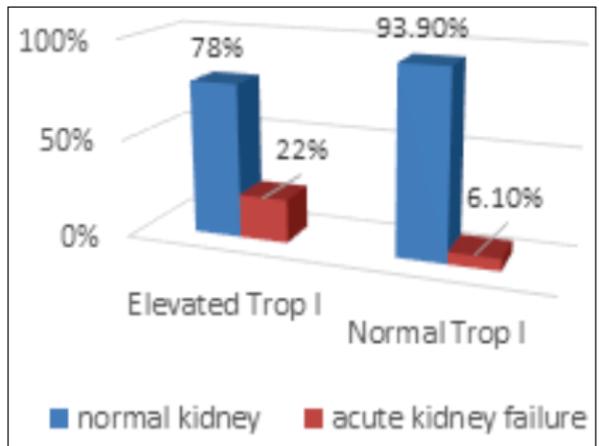
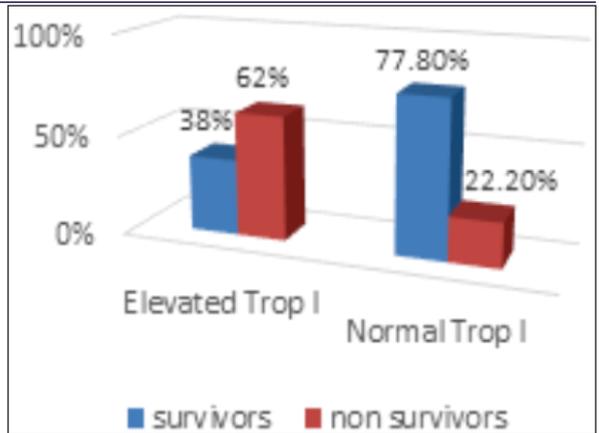
To determine the prognostic value of elevated Troponin-I in covid- 19 infection.

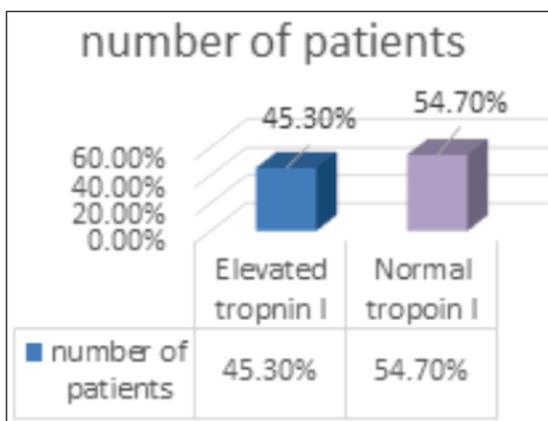
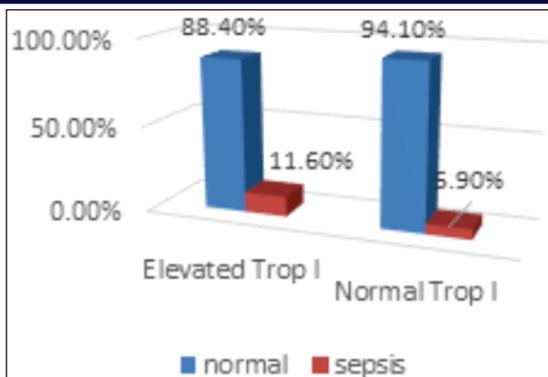
METHODS

Clinical characteristics and laboratory data of patient's confirmed with covid-19 on admission were collected and their data is compared and analysed from the period from May 2020 to January 2021 in tertiary care hospital (nodal centre).

RESULTS

A total of 1100 patients with COVID-19 were included in this study - mean age is 67 years, 70.8% male, 352 patients (32%) died during the hospitalization. Elevated troponin levels were found in 498 patients (45.3%). These patients were older (mean age, 66.3 years vs 70.2 years) and had higher prevalence of hypertension (309 patients [62%] vs 302 patients [50.3%]). Elevated troponin levels were associated with an increased in-hospital mortality (218 [62%] vs 134 [22.2%]), and this was independent from concomitant cardiac disease. Elevated troponin levels were also associated with a higher risk of in-hospital complications: heart failure (99 patients [19.8%] vs 19 patients [3.2%]), sepsis (58[11.6%] vs 36 [5.9%]), acute kidney failure (110[22%] vs 37 [6.1%]).





**DISCUSSION**

In this study, we report our experience on the association between troponin levels and COVID-19 outcomes. We have found that nearly 45.3% of admitted patients are troponin positive. These patients had higher mortality and complications compared with those with normal troponin values. In a cohort of 416 positive patients, Shi et al. [3] reported that 86 patients had evidence of increased troponin levels. Those patients with higher troponin levels had also increased in-hospital mortality. Similar results were reported by Guo et al. [4], with highest mortality rates in those with elevated troponin levels and underlying CVD. Our study showed higher frequency of positive troponin levels in COVID-19 patients admitted to hospital as compared to these studies. Troponin represents a useful marker of disease progression and prognosis in covid-19. Utilizing troponin levels (single or repeated measurements), along with other clinical and laboratory variables commonly used will be useful for risk stratification a patient and for guiding therapy.

**CONCLUSIONS**

In this study of patients with COVID-19, elevated troponin was an independent variable associated with high in-hospital mortality and a greater risk of cardiovascular and non-cardiovascular complications during a hospitalization for COVID-19. Further research is needed on the potential usefulness of troponin for the management and treatment decisions in COVID-19 patients

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