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COVID-19, POCUS, and Takotsubo

As of November 26, 2020, 62 articles could be accessed in PubMed in response to the MeSH term "COVID-19 and takotsubo,"[1–3] and describe or review cases of afflicted patients with the SARS-CoV-2, who were also diagnosed with the co-morbidity of Takotsubo syndrome (TTS). These 62 articles discuss patients with the COVID-19/TTS co-morbidity, and constitute a small part of the 74,342 articles accessed in PubMed, in response to the MeSH term "COVID-19," which discuss patients who were diagnosed solely with COVID-19. Review of these 62 reports reveals that many of the patients with TTS in the setting of a hospitalization with COVID-19, appeared to have been diagnosed with TTS, almost fortuitously, in the sense that while the main pathology of concern of their physicians was COVID-19, these patients complained of chest pain, or had excessive dyspnea in the absence of severe pneumonic involvement, or had cardiac complications, or showed increased biomarkers, or had prior history of heart disease, or had risk factors for coronary artery disease, or had an imaging test without any particular diagnostic intention. This implies that TTS, of varying severity must be underdiagnosed in patients with COVID-19. All health workers must keep in mind that patients with COVID-19 are at risk for development of acute coronary syndromes, heart failure, arrhythmias, and TTS,[1–3] in addition to specific infectious myocarditis with detection of SARS-CoV-2 in myocardial biopsies.[4] Indeed, the catecholamine surge, the intense inflammatory activation of the cytokine storm, and other physical and emotional triggers, associated with COVID-19, are perfect breeding grounds for the emergence of TTS co-morbidity.

Considering the intense activity to manage patients with COVID-19 and its dramatic complications, and the understandable efforts to limit physical exposure of members of the caring team, who ordinarily when TTS is suspected, will perform certain imaging studies (e.g., conventional transthoracic echocardiography, cardiac catheterization, CT-scan/angiography, and cardiac magnetic resonance imaging), and record one or several electrocardiograms during hospitalization, one is left with very little to diagnose a possible underlying TTS co-morbidity. In this setting, implementing frequently point of care hand-held ultrasound (POCUS) devices,[5] by many members of the caring team for the detection of TTS and other cardiac afflictions in patients with COVID-19, may prove revealing (i.e., show the true incidence of TTS) and life-saving (i.e., alter the management plan to include interventions for the underlying cardiac pathology, in addition to the ones directed at the pulmonary, and systemic complications of COVID-19).

Conflicts of Interest

The authors have no conflicts of interest to disclose.

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Impact of Malnutrition on Outcomes Among Patients Undergoing Transcatheter Aortic Valve Implantation

In geriatric patient population, poor nutritional status has been shown to be an independent risk factor for long-term mortality and morbidity among patients with severe aortic stenosis undergoing transcatheter aortic valve implantation (TAVI).[1-4] In our study, we utilized a nationwide cohort to assess the impact of malnutrition on in-hospital outcomes amongst the patients undergoing TAVI.

We identified all hospitalizations in patients who underwent TAVI (*International Classification of Diseases*, *Ninth Revision, Clinical Modification* [ICD-9-CM] procedure code 35.05 or 35.06 and *International Classification of Diseases*, *Tenth Revision, Clinical Modification* [ICD-10-CM] procedure codes 02RF37H, 02RF37Z, 02RF38H, 02RF38Z, 02RF3JH, 02RF3JZ, 02RF3KH, and 02RF3KZ) from 2014 to 2017 using the national inpatient sample (NIS) database. Malnutrition was defined as ICD-9-CM diagnosis codes 262, 2630, 2631, 2632, 2638, 2639, and ICD-10-CM diagnosis codes E43, E440, E441, E45, and E46. Overweight and obesity were defined as ICD-9-CM code 278 and ICD-10-CM code E66. A propensity score matching model was developed using logistic regression to derive 2 matched groups, malnutrition versus no malnutrition for comparative outcome analysis. The study population was entered into a