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Health Care Worker Status Is Protective Against Thrombotic Events Associated With COVID-19

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Objectives: Thromboembolic events (TE) are commonly reported complications of coronavirus disease-2019 (COVID-19) infection in admitted patients, contributing to the complexity of patient care, hospital admission, and mortality rates. Health care workers (HCWs) experience high risk occupational exposure to COVID-19 infection, and thus a theoretical increased risk of TE. This study seeks to identify variables associated with increased risk of TE regardless of admission status who tested positive for COVID-19 during the initial surge of the pandemic in an urban setting in both HCWs and non-HCWs.

Methods: Medical records of all individuals testing COVID-positive from March 1 through May 1, 2020, at University Hospital in Newark, New Jersey, were retrospectively reviewed. Demographics, social and medical history, outpatient medications, admission, intubation, deep vein thrombosis prophylaxis, and mortality within 30 days of the index hospitalization were assessed for association with clinically significant TE. Such events included venous thromboembolism, stroke, acute myocardial infarction, arteriovenous access thrombosis, and arterial and venous thromboembolic events. Hazard ratios were calculated using relative rates of events in each respective cohort. Statistical significance was assessed using standardized 95% confidence interval differences with statistical significance achieved if the P value was less than .05.

Results: Of 1696 COVID-positive patients, 115 (6.7%) experienced a total of 134 thrombotic events. Male patients were almost twice as likely to experience a thrombotic event than females (9.8% vs 6.0%; hazard ratio [HR], 1.63). Patients older than 60 years of age were more than three times more likely to experience a thrombotic event than those younger than 60 (16.1% vs 4.3%; HR, 3.70). African American patients were more than twice as likely to experience a thrombotic event than White patients (11.0% vs 4.0%; HR, 2.78). Other variables significantly associated with rates of TE include diagnoses of diabetes mellitus, hypertension, hyperlipidemia, chronic kidney disease, prior stroke, prior venous thromboembolism, and smoking history (Table). HCW status was protective against thrombotic events compared with non-HCW status (0.98% vs 9.42%; HR, 0.10). Patients experiencing TE were more likely to have required hospital admission (98.2% vs 32.0%; HR, 3.07) and not survive 30 days (49.6% vs 5.6%; HR, 8.82) than patients who did not have thrombotic complications.

Conclusions: Thromboembolic complications in health care workers testing positive for COVID-19 are rare. Rates of TE are increased in patients with significant medical comorbidities and increase further alongside severity of such comorbid conditions. TE is strongly associated with mortality from COVID-19 infection. Further research is needed to identify if the aforementioned associations and HRs remain significant in a vaccinated population.

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Covered Versus Bare Metal Stents for Chronic Mesenteric Ischemia: Systematic Review and Meta-analysis

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Objectives: Endovascular revascularization through mesenteric stenting is the preferred initial treatment strategy for symptomatic chronic mesenteric ischemia (CMI), but restenosis and symptom recurrence are common. Emerging evidence suggests that covered stents (CS) may reduce or delay the incidence of in-stent restenosis compared with traditional bare metal stents (BMS). Our study objective was to compare the performance of CS to BMS in the management of CMI.

Methods: We searched PubMed and Embase databases (inception to April 27, 2021) for studies comparing CS with BMS in the management of CMI following the PRISMA guidelines. The abstract and full-text screening were done in parallel by two authors, resolving conflicts by reviewing them with a third author. Our outcomes of interest were loss of primary patency, restenosis, and symptom recurrence at the latest follow-up. Primary analysis was performed using random-effects models and heterogeneity was measured using the I² statistic. We assessed the quality of observational studies using the Newcastle-Ottawa Scale. The predefined protocol was registered in PROSPERO.

Results: We double-screened a total of 502 articles, of which four observational studies (n = 432 patients, 511 vessels) were included (Fig 1). CS were used in 20.4% of vessels (n = 104). When compared with BMS, the use of CS was associated with lower odds of loss of primary patency (pooled odds ratio, 0.37; 95% confidence interval [CI], 0.15–0.90; P value = 0.029; I² = 59.9%; n = 511 vessels) (Fig 2). CS were also associated with lower odds of restenosis (pooled odds ratio, 0.12, 95% CI, 0.06–0.23; P < 0.001; I² = 0%; n = 280 patients). One study reported lower symptom recurrence associated with CS use (OR, 0.08; 95% CI, 0.02–0.2; P < 0.001; n = 189 patients). The length of follow-up varied across studies (median follow-up range, 16–31 months). Heterogeneity was high, and the overall quality of included studies was low owing to small sample sizes, single-center design, retrospective data collection, differential follow-up between treatment groups, and risk for systematic or selection bias.