Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Background: The type and optimal length of antithrombotic (ATT) regimen after transcatheter aortic valve replacement (TAVR) is unknown.

Methods: This is a retrospective analysis of patients who underwent TAVR at JFK Medical Center from 2012-2020. Patients were grouped as single vs. dual antiplatelet therapy (SAPT vs. DAPT) or non-vitamin K vs. vitamin K antagonist (NVKA vs. VKA). Primary outcomes were major bleeding, stroke, and myocardial infarction. Secondary outcomes were in-hospital mortality and length of stay.

Results: There were no significant differences across groups (Table 1). The mean CHA2DS2-VASc score was 4.9±0.1 vs. 5.0±0.4 for SAPT vs. DAPT, respectively (p=NS) and the mean HAS-BLED was 3.05±0.04 vs. 3.01±0.01 (p=NS) for the NVKA vs. VKA group. 5.1±0.26 vs. 4.9±0.23 (p=NS) and 3.2±0.11 vs. 2.85±0.09, respectively (p=NS). The primary outcome at 30 and 365 days, as well as secondary outcomes, was not different amongst groups (p=NS) (Table 2).

Conclusion: Among patients undergoing TAVR, SAPT was as safe and effective as DAPT at 12 months. Similar results were found when comparing NVKA vs. VKA in patients with indications for oral anticoagulation.

Table 1. SAPT (n=150) DAPT (n=468) VKA (n=10) NVKA (n=21)

| Parameter | SAPT | DAPT | VKA | NVKA |
|-----------|------|------|-----|------|
| Age – yrs | 82±1 | 80±2 | 84±2 | 86±1.4 |
| Female | 69 | 70 | 65 | 72 |
| HAS-BLED | 3.6±0.1 | 3.5±0.1 | 3.7±0.1 | 3.6±0.1 |
| CHA2DS2-VASc | 4.9±0.1 | 5.0±0.4 | 4.9±0.1 | 5.0±0.4 |
| Previous stroke | 25 | 25 | 25 | 25 |
| Previous myocardial infarction | 25 | 25 | 25 | 25 |
| Previous MI | 4.4 | 4.4 | 4.4 | 4.4 |
| Estimated glomerular filtration rate (eGFR) | 6.9±1.4 | 5.2±1.4 | 5.4±1.4 | 5.5±1.4 |
| Long disease | 0.05 | 0.05 | 0.05 | 0.05 |

Table 2. SAPT DAPT VKA NVKA

| Parameter | SAPT | DAPT | VKA | NVKA |
|-----------|------|------|-----|------|
| New heart failure | 0.05 | 0.05 | 0.05 | 0.05 |
| Stroke | 0.05 | 0.05 | 0.05 | 0.05 |
| Myocardial infarction | 0.05 | 0.05 | 0.05 | 0.05 |
| Thrombolysis or fibrinolysis | 0.05 | 0.05 | 0.05 | 0.05 |
| Primary Outcome at 1 year (Death, %) | 5.1±0.26 | 4.9±0.23 | 4.9±0.23 | 4.9±0.23 |

Covid-19

Methods: A total of 19 patients with COVID-19 underwent ECMO at Princeton Hospital. We compared in-hospital complications and short-term outcomes between patients with VV ECMO vs. RA-LA ECMO. VV-ECMO was initiated in the cath lab, while RA-LA ECMO was initiated bedside using intracardiac echo guidance. We used Fisher’s exact test for mortality and Student’s t-test for other variables.

Results: Between March and September 2020, 19 patients underwent ECMO cannulation. Out of 19 patients, 5 patients had beside TandemHeart ECMO (we performed bedside ICU ECMO procedure in 5 patients, 3 males and 2 females). We placed a 21F LA cannula (TandemHeart, TandemHeart, Pittsburgh, PA) via the right common femoral vein (CFV) and a 25F RA cannula (Edwards, Irvine, CA) through the left CFV. Both the oxygenator and pump were also a TandemHeart system. The median duration of ECMO was 16 days (range 7 to 19 days) for RA-LA ECMO compared to 26 days (range 12-81 days) for conventional VV-ECMO (p<0.02). The mean number of blood transfusions was 10.4±1.6 vs. 21.8±7.1 units, p<0.0001. One patient in the TandemHeart ECMO arm required dialysis, while 8/14 patients on VV-ECMO required dialysis, p=0.1. Intensive care unit (ICU) length of stay was shorter in the RA-LA ECMO group compared to VV-ECMO (25.8±7.4 vs. 3.67±14.1 days, p<0.05). A total of 6/14 (42.8%) patients in the VV-ECMO vs. 0/5 (0%) in the RA-LA ECMO died in the hospital. However, this was not statistically significant (p=0.2). No major procedural complications, including tamponade occurred in the RA-LA arm despite using bedside ICE without fluoroscopy.

Conclusion: Bedside percutaneous RA-LA cannulation was feasible and safe and was associated with significantly shorter ECMO and ICU days among COVID-19 patients presenting with ARDS. This strategy has the potential benefit of providing complete cardiopulmonary support in patients with ARDS. However, larger studies are needed to confirm its role in COVID-19 infections and potentially other ARDS scenarios.

Abstracts / Cardiovascular Revascularization Medicine 28S (2021) S9–S49

doi:10.1016/j.carrev.2021.06.109

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Same-Day Discharge Protocol Strategy for Left Atrial Appendage Occlusion in the COVID-19 Era

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Background: Left atrial appendage occlusion (LAAO) WATCHMAN™ device is approved for stroke prevention in nonvalvular atrial fibrillation as a rational alternative to oral anticoagulation. During the COVID-19 pandemic, a same-day-discharge strategy reduces resource utilization, relieves hospital occupation, and possibly reduces the risk of in-hospital...
transmission. We sought to analyze the feasibility for the implementation of a same-day-discharge protocol in a series of patients receiving LAAO with cardiac computed tomography angiography (CTA)-guided pre-procedural planning and intra-cardiac echocardiography (ICE)-guided device deployment in patients under conscious sedation.

**Methods:** A prospective analysis of 20 consecutive patients who underwent same-day discharge following LAAO over a 6-month period with cardiac CTA-guided pre-procedural planning and ICE was conducted. Procedures were performed in a large academic hospital in the United States. Procedural success, adverse events, length of procedure, and length of stay were evaluated.

**Results:** The same-day-discharge protocol was implemented for all 20 patients (100%) successfully, 12 (60%) with WATCHMAN™ 2.5 devices and 8 (40%) using the next-generation WATCHMAN™ FLX platform. The mean CHA2DS2-VASC score was 4.2±1.2 and the mean HAS-BLED score was 3.9±0.9. All deployments were sized on the basis of pre-procedural CTA and were ICE-guided, with 100% success, with the patients under conscious sedation. Hence, there was no need for trans-esophageal echocardiogram, intubation, or mechanical ventilation. No adverse events occurred.

**Conclusions:** The same-day-discharge strategy is feasible and may play an important role in the COVID-19 era. A protocol including CTA pre-procedural planning, ICE-guided deployment, and conscious sedation reduces hospital occupation and lowers costs.

**Background:** Primary percutaneous coronary intervention (PPCI) is one of the important clinical procedures that have been affected by the COVID-19 pandemic. In this study, we aimed to assess the incidence and impact of COVID-19 on the in-hospital outcomes of ST-elevation myocardial infarction (STEMI) patients managed with PPCI.

**Methods:** This observational retrospective study was conducted on consecutive STEMI patients who presented to International Cardiac Center (ICC) Hospital, Alexandria, Egypt between February 1 and October 31, 2020. A group of STEMI patients who presented during the same period in 2019 was also assessed (control), and the data were used for comparison. The inclusion criterion was established diagnosis of STEMI requiring PPCI. A total of 634 patients were included in the study.

**Results:** During the COVID-19 period, the number of PPCI procedures was 25.7% lower than previous year (average 30 cases/month 30.0±4.01 compared to 40 cases/month 40.4±5.3), and the time from first medical contact to needle (FMC-to-N) was longer (125.0±53.6 min vs 52.6±22.8 min, p=0.001). Also during the COVID-19 period, the in-hospital mortality rate was higher (7.4% vs 4.6%, p=0.036), as was the incidence of re-infarction (12.2% vs. 7.7%, p=0.041) and the need for revascularization (15.9% vs 10.7%, p=0.046). The incidence of heart failure, stroke and bleeding was not different between groups, but the length of hospital stay was longer during COVID-19 (6.85±4.22 days versus 3.5±2.3 days, p=0.0025).

**Conclusion:** At the ICC, the COVID-19 pandemic contributed significantly to the PPCI management of STEMI, with a decreased number and delayed procedures. COVID-19 was also associated with higher in-hospital mortality, rate of re-infarction, need for revascularization, and longer hospital stay.

**Objective:** To evaluate the thromboreistance of different stent polymers to a simulated COVID-19 cytokine storm.

**Background:** Cytokine storm-related hypercoagulation is important in the pathogenesis of cardiac injury in patients with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and increases the risk of stent thrombosis. Whether stent polymers behave differently under such conditions has never been explored.

**Methods:** We tested the thromboreistance of stents with different polymers (i.e., fluorinated polymer-nanocoated and uncoated COBRA stents (CeloNova, Carlsbad, CA), C10, C19, and polyvinyl-pyrrolidinone polymer (BioLinx)-coated Resolute Onyx stents (Medtronic, Minneapolis, MN), and Synergy stents (Boston Scientific, Marlborough, MA), which are abluminally coated with a

**doi:**10.1016/j.carrev.2021.06.111

**Effects of Simulated COVID-19 Cytokine Storm on Stent Thrombogenicity**

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