



Physician connect

Vol 1 | Issue 6 | 2020

Dear Doctor,

Greetings from Micro Labs Limited. We are happy to bring you '**Physician connect**' which contains latest and interesting news in the field of Medicine.

This issue contains

- Resuscitation of adult COVID-19 patients in acute hospital settings
- A Phase 3, Randomized trial of Vericiguat in Patients with Heart Failure and Reduced Ejection Fraction
- HDL subfractions are associated with cognitive performance: a cross sectional analysis

Should you require any specific article or medical information, please feel free to contact us at

medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Limited

Resuscitation of adult COVID-19 patients in acute hospital settings

Use of physiological track-and-trigger systems (e.g. NEWS2) will enable early detection of acutely ill patients. For those for whom resuscitation would be inappropriate, decisions must be made and communicated. Equipment must be made readily available to protect staff during resuscitation attempts. All health care workers managing those with suspected or confirmed COVID-19 must follow National guidance for infection control and the use of PPE.

CARDIAC ARREST: CPR

Recognize cardiac arrest. Look for the absence of signs of life and normal breathing. Feel for a carotid pulse if trained to do so.
Do not listen or feel for breathing by placing your ear and cheek close to the patient's mouth.

If a defibrillator is readily available defibrillate shockable rhythms rapidly prior to starting chest compressions.

The early restoration of circulation may prevent the need for further resuscitation measures.

Full Aerosal Generating Procedure (AGP) Personal Protective Equipment (PPE) must be worn by all members of the resuscitation/emergency team before entering the room.

If the patient is already receiving supplemental oxygen therapy using a face mask, leave the mask on the patient's face during chest compressions as this may limit aerosol spread.

If not in situ, but one is readily available, put a simple oxygen mask on the patient's face. Restrict the number of staff in the room (if a single room).

Airway interventions (e.g. supraglottic airway (SGA) insertion or tracheal intubation) must be carried out by experienced individuals.

Sets of AGP PPE must be readily available where resuscitation equipment is being locally stored.

No chest compressions or airway procedures such as those detailed below should be undertaken without full AGP PPE.

Once suitably clothed, start compression-only CPR and monitor the patient's cardiac arrest rhythm as soon as possible.

Do not do mouth-to-mouth ventilation or use a pocket mask.

Airway interventions (e.g. supraglottic airway (SGA) insertion or tracheal intubation) must be carried out by experienced personnel.

Individuals should use only the airway skills (e.g. bag-mask ventilation) for which they have received training.

Identify and treat any reversible causes (e.g. severe hypoxaemia) before considering stopping CPR.

Discussion should be maintained throughout the resuscitation event and early planning of the post resuscitation phase undertaken.

Contact senior help and gain advice from critical care partners as part of the planning.

Dispose of, or clean, all equipment used during CPR following the manufacturer's recommendations and local guidelines.

Any work surfaces used for airway/resuscitation equipment will also need to be cleaned according to local guidelines.

Specifically, ensure equipment used in airway interventions (e.g. laryngoscopes, face masks) is not left lying on the patient's pillow, but is instead placed in a tray.

Do not leave the Yankauer sucker placed under the patient's pillow; instead, put the contaminated end of the Yankauer inside a disposable glove..

Remove PPE safely to avoid self-contamination and dispose of clinical waste bags as per local guidelines.

Hand hygiene has an important role in decreasing transmission.

Thoroughly wash hands with soap and water; alternatively, alcohol hand rub is also effective.

Post resuscitation debrief is important and should be planned.

1. Resuscitation Council UK Statements on COVID-19 (Coronavirus), CPR and Resuscitation / COVID-19 Resources: Healthcare Settings. Version 4. Published 6 April 2020
2. Interim Guidance for Healthcare Providers during COVID-19 Outbreak. American Heart Association Guidelines 2020
3. Available at <https://www.who.int/docs/default-source/coronaviruse/clinical-management-of-novel-cov.pdf>. Accessed on 06/04/2020

A Phase 3, Randomized trial of Vericiguat in Patients with Heart Failure and Reduced Ejection Fraction

The effect of vericiguat, a novel oral soluble guanylate cyclase stimulator, in patients with heart failure and reduced ejection fraction who had recently been hospitalized or had received intravenous diuretic therapy is unclear.

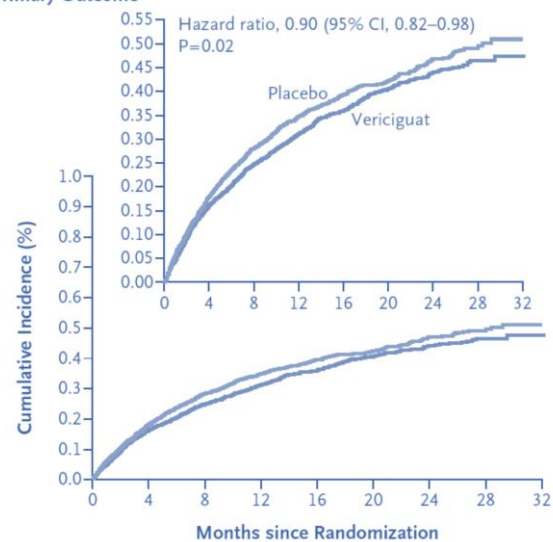
In this phase 3, randomized, double-blind, placebo-controlled trial, we assigned 5050 patients with chronic heart failure (New York Heart Association class II, III, or IV) and an

ejection fraction of less than 45% to receive vericiguat (target dose, 10 mg once daily) or placebo, in addition to guideline-based medical therapy. The primary outcome was a composite of death from cardiovascular causes or first hospitalization for heart failure. Over a median of 10.8 months, a primary-outcome event occurred in 897 of 2526 patients (35.5%) in the vericiguat group and in 972 of 2524 patients (38.5%) in the placebo group (hazard ratio, 0.90; 95% confidence interval [CI], 0.82 to 0.98; P=0.02).

A total of 691 patients (27.4%) in the vericiguat group and 747 patients (29.6%) in the placebo group were hospitalized for heart failure (hazard ratio, 0.90; 95% CI, 0.81 to 1.00). Death from cardiovascular causes occurred in 414 patients (16.4%) in the vericiguat group and in 441

The incidence of death from CV causes or hospitalization for HF was lower among those who received vericiguat

A Primary Outcome



No. at Risk

Placebo	2524	2053	1555	1097	772	559	324	110	0
Vericiguat	2526	2099	1621	1154	826	577	348	125	1

patients (17.5%) in the placebo group (hazard ratio, 0.93; 95% CI, 0.81 to 1.06). The composite of death from any cause or hospitalization for heart failure occurred in 957 patients (37.9%) in the vericiguat group and in 1032 patients (40.9%) in the placebo group (hazard ratio, 0.90; 95% CI, 0.83 to 0.98; $P=0.02$). Symptomatic hypotension occurred in 9.1% of the patients in the vericiguat group and in 7.9% of the patients in the placebo group ($P=0.12$), and syncope occurred in 4.0% of the patients in the vericiguat group and in 3.5% of the patients in the placebo group ($P=0.30$). Among patients with high-risk heart failure, the incidence of death from cardiovascular causes or hospitalization for heart failure was lower among those who received vericiguat than among those who received placebo.

Source: Armstrong PW et al. N Engl J Med. 2020;10.1056/NEJMoa1915928.

HDL subfractions are associated with cognitive performance: a cross sectional analysis

There are conflicting results about the high-density lipoproteins (HDL) role in cognitive performance. Since HDL is composed of different subfractions that have different characteristics, our study sought to observe cross-sectionally the association between HDL-cholesterol subfractions and domain-specific cognitive tests.

The HDL -C subfractions measured by the VAP method is independently associated with the global cognitive test

A total of 4,443 participants without previous cerebrovascular disease and not in use of lipid-lowering drugs were evaluated using the delayed word recall test, the category frequency test and the trail making test. The HDL-C subfractions measurements were performed by the Vertical Auto Profile test, an ultracentrifugation method. We used multiple linear regression models to analyze these associations.

The mean age was 51±9 years, 54,2% were women, and the mean HDL-C, HDL-Cc and HDL -C were 54.8±14.4; 14.8±6.7 and 40±8.3 mg/dl, respectively. We observed a positive

association between HDL -c and global composite cognition tests even after adjustment for age, sex, ethnicity, education, smoking status, physical activity, alcohol use, depression, systolic blood pressure, diabetes, thyrotropic hormone, LDL-c, triglycerides and waist circumference (p=0.03). After adjustment, HDL -c showed no relationship with any test, and total HDL-c presented a borderline association with memory test (p=0.05). In a large cohort, the HDL -C subfractions measured by the VAP method is independently associated with the global cognitive test.

Source: Generoso G et al. J Am Coll Cardiol. 2020 Mar, 75 (11 Supplement 1) 1874.

Total HDL-c		Bivariate		Model 1		Model 2		Model 3	
Z-score	β	95% CI	β	95% CI	β	95% CI	β	95% CI	
Global Cognition	0.112	(0.082 ; 0.141)	0.034	(0.009 ; 0.059)	0.023	(-0.002 ; 0.048)	0.026	(-0.001 ; 0.053)	
DWRT	0.117	(0.088 ; 0.146)	0.041	(0.012 ; 0.070)	0.037	(0.008 ; 0.066)	0.032	(0.00002 ; 0.063)	
CFT	0.085	(0.055 ; 0.114)	0.031	(0.003 ; 0.060)	0.023	(0.005 ; 0.052)	0.026	(0.005 ; 0.058)	
TMT	0.053	(0.024 ; 0.082)	0.005	(0.021 ; 0.030)	-0.008	(-0.033 ; 0.018)	0.001	(0.027 ; 0.029)	
HDL ₂ -c		Bivariate		Model 1		Model 2		Model 3	
Z-score	β	95% CI	β	95% CI	β	95% CI	β	95% CI	
Global Cognition	0.094	(0.065 ; 0.123)	0.023	(-0.002 ; 0.048)	0.015	(-0.010 ; 0.039)	0.017	(-0.010 ; 0.044)	
DWRT	0.113	(0.084 ; 0.142)	0.038	(0.009 ; 0.067)	0.034	(0.005 ; 0.063)	0.028	(0.003 ; 0.060)	
CFT	0.071	(0.041 ; 0.100)	0.025	(-0.003 ; 0.053)	0.019	(0.010 ; 0.047)	0.021	(0.010 ; 0.052)	
TMT	0.031	(0.002 ; 0.060)	-0.010	(0.036 ; 0.015)	-0.019	(0.045 ; 0.006)	-0.012	(-0.040 ; 0.016)	
HDL ₃ -c		Bivariate		Model 1		Model 2		Model 3	
Z-score	β	95% CI	β	95% CI	β	95% CI	β	95% CI	
Global Cognition	0.116	(0.087 ; 0.145)	0.038	(0.014 ; 0.062)	0.026	(0.002 ; 0.051)	0.029	(0.002 ; 0.055)	
DWRT	0.109	(0.080 ; 0.139)	0.038	(0.010 ; 0.066)	0.034	(0.005 ; 0.063)	0.028	(0.003 ; 0.059)	
CFT	0.089	(0.059 ; 0.118)	0.033	(0.005 ; 0.061)	0.024	(0.004 ; 0.052)	0.027	(-0.004 ; 0.057)	
TMT	0.067	(0.038 ; 0.096)	0.016	(0.009 ; 0.041)	0.002	(-0.023 ; 0.028)	0.011	(-0.017 ; 0.038)	

This scientific input is prepared from the Department of Medical Services, an initiative of M/s Micro Labs Limited under the aegis of Micro Knowledge Academy. The information contained herein is for education purpose only. The content is developed by compiling information from various authentic and published literatures. Although great care has been taken to assure the accuracy of the publication, M/s Micro Labs Limited shall not be responsible or in any way liable for any inaccuracy, errors, or omissions resulting from negligence or otherwise howsoever or any consequences arising there from. In spite of best efforts, the information in this publication may become outdated over time. M/s Micro Labs Limited shall not be responsible in any manner whatsoever, for any action taken, opinions expressed, advice rendered or accepted, any direct, incidental, special or consequential loss and damage caused on the basis of any material or information presented in this publication / update