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T2D as an Important Starting Point of Heart Failure – Early Intervention for Heart Failure Patients

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ABSTRACT
SGLT2i has shown benefit in T2D patients. Several studies have also shown its benefit for cardiovascular complication, such as heart failure. Heart failure is an often-missed complication in T2D patients. Dapagliflozin has shown benefit to reduce the hospitalization rate of heart failure in the T2D population, with several guidelines backing up the usage of SGLT2i in patients with high risk and heart failure complications.

AN UPDATE OF ANTICOAGULANT IN VENOUS THROMBOEMBOLISM

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ABSTRACT
Venous thromboembolism (VTE), comprised of deep vein thrombosis (DVT) and pulmonary embolism (PE), is a result of propagating thrombus formation in the vein due to either hypercoagulability, stasis, or endothelial injury. Recently, this disease warrants global awareness due to its contribution on death and chronic morbidity. Global surveillance has reported the increment of VTE incidences particularly in Asia, although it is still lower than rest of the world. Venous thromboembolism in Asia has a characteristic dominated by female gender, underweight and has main risk factors of cancer and hospitalization. According to IDENTIA, a registry of incidence of deep vein thrombosis in medically ill patient in Indonesia, the incidence of DVT increase parallel with long duration of immobilization, obesity and cancer history.

The clinical outcomes of VTE in Asia were reported to higher in mortality, recurrence, and progression into pulmonary embolism. These findings were congruent with data of lesser guideline directed in the management of VTE in Asia, moreover there was also lack of prophylaxis data.

Based on those study, this paper aims to discuss about VTE prevention and therapy, focusing on anticoagulant. For the prophylaxis, this paper will discuss on cancer, hospitalization patient and in COVID 19 as an emerging global health issue.

High Potent Antiplatelet in Pharmacoinvasive Strategy

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ABSTRACT
ST-segment elevation myocardial infarction (STEMI) accounts for 25–40% of acute coronary syndrome (ACS) cases (1). Several studies and practice guidelines have demonstrated the superiority of primary percutaneous coronary intervention (PCI) over other therapies when performed within 90 minutes of first medical contact FMC) for field transfer and 120 minutes of FMC for patients presenting to non-PCI-capable facility [1-3]. However, some of this superiority is lost when door-to- balloon time exceeds 120 minutes, a situation that can occur when challenging conditions like shortage of skilled manpower, weather, traffic and geography exist. A pharmacoinvasive strategy is recommended for ST-elevation myocardial infarction (STEMI) patients when primary percutaneous coronary intervention (PCI) cannot be achieved in a timely fashion. Pharmacoinvasive strategy was defined as fibrinolysis followed by rescue or urgent PCI or by routine elective PCI (beyond 3 hours of fibrinolytic administration).

Patients treated with a pharmacoinvasive strategy require anticoagulant and antiplatelet therapy before PCI. The prognostic benefit associated with dual antiplatelet therapy (DAPT) following acute coronary syndromes (ACS) has been well established. As such, newer and more potent oral P2Y12 antagonists-prasugrel and ticagrelor-have been preferentially endorsed over clopidogrel in ST elevation myocardial infarction (STEMI) patients following primary percutaneous coronary intervention (PCI). Randomized trials that demonstrated superior efficacy of ticagrelor and prasugrel however excluded STEMI patients treated with a contemporary fibrinolytic pharmacoinvasive strategy. Based on TREAT study patients with STEMI younger than 75 years who initially received clopidogrel can be safely switched to ticagrelor in the first 24 hours after fibrinolysis. Whether this strategy will result in fewer cardiovascular events in the long term remains to be determined. In patients younger than 75 years with STEMI, delayed administration of ticagrelor after fibrinolytic therapy was noninferior to clopidogrel for TIMI major bleeding at 30 days.

Drugs for Pulmonary Hypertension in Pregnancy: What Should We Consider?

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ABSTRACT
Pulmonary Arterial Hypertension (PAH) is a disease characterized by narrowing of the pulmonary arteries and increased vascular resistance cause to increase morbidity and mortality. Women with PAH should avoid becoming pregnant because changes in physiological, cardiovascular dan pulmonary can affect the condition. If these women decide to continue their pregnancy, they have several treatment options: inhaled nitric oxide, calcium channel blocker, and sildenafil. Endothelin receptor antagonists like bosentan, macitentan, ambrisentan are contraindicated. Sildenafil is categorized as a B drug in pregnant patients with PAH. Sildenafil causes vasodilatation in the pulmonary vascular beds and systemic circulation. Iloprost is a pregnancy category C but has beneficial in treating pregnant patients with PAH with no congenital abnormality and increased mortality in mother and infant. Epoprostenol, a potent pulmonary vasodilator categorized as a B drug but unfortunately not available in Indonesia.

A Brief Guide of Pulmonary Hypertension for Clinicians

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ABSTRACT
PH mempengaruhi sekitar 1% dari populasi dunia, 10% dari individu yang lebih tua dari 65 tahun, dan setidaknya 50% pasien dengan gagal jantung. Kemungkinan besar setiap dokter pernah bertemu pasien PH dalam praktik mereka, baik disadari dan tidak. Beberapa pasien datang ke dokter, namun karena gejalanya sering tidak spesifik, diagnosis PH dapat menjadi sulit dan memerlukan evaluasi secara bertahap. Mengenali PH pada pasien dengan tanda atau gejala yang baru sering menjadi sulit karena banyak tanda atau gejala yang tidak spesifik serta berhubungan dengan diagnosis banding yang luas. Sangat penting bagi dokter untuk dapat mengenali pasien PH sedini mungkin sehingga setiap dokter harus mempertimbangkan riwayat penyakit, temuan klinis, dan melakukan pemeriksaan penunjang.

Pretreatment of Antiplatelet Therapy in ACS Patients: When and How?

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ABSTRACT
Pre-treatment antiplatelet therapy describes a strategy regarding administration of antiplatelet drugs, commonly a $P2Y_{12}$ receptor inhibitor is administered prior to coronary angiography and when the coronary anatomy is unknown. Pretreatment antiplatelet therapy has shown to be beneficial in improving the outcomes of ACS patients. In STEMI cases undergoing PCI, the patient should receive DAPT (a combination aspirin and $P2Y_{12}$ inhibitor) for the antiplatelet pretreatment. For NSTEMI cases, it is not recommended to administer routine pre-treatment with $P2Y_{12}$ receptor inhibitor in patients in whom coronary anatomy is not known and no invasive management is not planned.

Proprotein Convertase Subtilisin Kexin 9 (PCSK-9) - Targeting Therapy as A New Line for The Treatment of Hyperlipidemia

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ABSTRACT
Subtilisin/Kexin type 9 proprotein convertase (PCSK9) is an enzyme produced in the liver. PCSK9 binds to low-density lipoprotein (LDL) receptors on the surface of hepatocytes, which are then degraded and result in elevated plasma LDL-cholesterol (LDL-C) levels. Blocking PCSK9 with antibodies lowers plasma LDL-C levels. Alirocumab and evolocumab are fully humanized monoclonal antibodies that bind to PCSK9-free plasma. They have been approved for clinical use by regulatory agencies. PCSK9 antibody levels of LDL-C were significantly lower. its use is associated with lower rates of myocardial infarction and stroke. Alirocumab in addition to intensive statin therapy may lead to a reduced risk of overall death after acute coronary syndrome in the long term. The most common side effect of evolocumab and alirocumab is injection site reactions. Other rates of side effects were comparable to those seen with placebo therapy. An attractive alternative to monoclonal antibodies for PCSK9-derived is PCSK9-small molecule interfering RNA (siRNA). Theoretically, these molecules offer profoundly lowering PCSK9 (intra and extracellular) at low dose frequencies and potentially at lower cost.

The clinical evidence of sodium-glucose cotransporter 2 (SGLT2) inhibitor, dapaglifozin, a new pillar of treatment for heart failure with reduced ejection fraction

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ABSTRACT
Heart failure with reduced ejection fraction (HFrEF) remains burdensome because its morbidity and mortality is still relatively high. The current treatments implementing multiple drugs for controlling symptoms and reduced fatal event have been proposed, however the mortality rate remains constant. Sodium-glucose cotransporter-2 (SGLT2) inhibitor, a novel class of drugs, had been introduced as a new pillar for HFrEF treatment. The DAPA-HF trial showed the beneficial impression of dapagliflozin, an SGLT2 inhibitor, on reducing the risk of hospitalization and mortality in HFrEF patients with or without type 2 diabetes mellitus.

The Role of ABPM and HBPM in Diagnosing Blood Pressure Variability

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ABSTRACT
The following are some of the forms of blood pressure variability that can be encountered in the clinic: white coat hypertension, masked hypertension, and morning surge hypertension. Many guidelines recommend the use of out of office blood pressure measurements to diagnose these conditions. We will discuss the role of out-of-office blood pressure measurement in detecting blood pressure variability.

The Importance of Hemodynamic Profile in Cardiogenic Shock for Guiding the Appropriate Management

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ABSTRACT

Cardiogenic shock (CS)-a condition where cardiac damage resulting on hypotension and hypoperfusion of end organ-still have high mortality rate and becoming a reason for patients admitted to CICU. Diagnosis of CS can be made using clinical criteria such as unresponsiveness to fluid resuscitation or hypoperfusion of peripheral organ such as cold extremity. But sometimes, it's difficult to distinguish shock caused by hypovolemia or low cardiac output/index (CI) without hemodynamic monitoring. Besides SCAI classification of CS, there is other classification that determined CS into four categories based on its hemodynamic type: dry warm (increasing of CI, low SVRI, low/normal PCWP), wet warm (low CI, low/normal SVRI, elevated PCWP), cold dry (low CI, high SVRI, low/normal PCWP), and cold wet (low CI, high SVRI, elevated PCWP). These approaches are important not only to established the diagnose but also to guiding the appropriate therapy.