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Review Article **Published Date:-2021-04-23 00:00:00**

Sildenafil citrate in healthy and diseased hearts

Sildenafil citrate is one of the frontline drugs used to manage erectile dysfunction (ED). Chemically, it is described as 1-[[3-(6,7-dihydro-1-methyl-7-oxo-3-propyl-1H –pyrazolo [4,3-d]pyrimidin-5-yl)-4 ethoxyphenyl] sulfonyl]-4-methylpiperazine citrate (C22H30N6O4 S). It is a highly selective inhibitor of cyclic guanine monophosphate-specific phosphodiesterase type-5. There had been heightened concerns following reports that sildenafil citrate may increase the risk of cardiovascular events, particularly fatal arrhythmias, in patients with cardiovascular disease. So the cardiac electrophysiological effects of sildenafil citrate have been investigated extensively in both animal and clinical studies. This article ties up the various outcomes of the investigations with a view to guiding physicians and patients that use sildenafil citrate to manage erectile dysfunction, especially as it concerns its effect on their cardiovascular function in health and in disease. Sildenafil citrate could impact negatively on ailing hearts, but on a healthy heart, there may not be any such impact, rather, it improves on heart performance as it lowers the blood pressure.

Case Report **Published Date:-2021-04-16 00:00:00**

pVAD-assisted left main DK-Crush Bifurcation PCI Post-ViV TAVR

We describe successful percutaneous coronary intervention (PCI) of significantly diseased ostial left main (LM) and distal LM bifurcation (Medina 1,1,1) in a patient with a reduced left ventricular ejection fraction and a recent valve-in-valve balloon-expandable TAVR using the DK-Crush technique with the support of a percutaneous left ventricular assist device.

Research Article **Published Date:-2021-03-24 00:00:00**

Abdominal obesity in predicting myocardial infarction risk. Waist-to-Hip Ratio: The metric that confused cardiology worldwide for a long time

Important differences has been found in assessing the effects of obesity on cardiovascular disease (CVD) risk [1]. Interestingly, accurate estimation of the body composition (BC) is highly relevant from a public health perspective [2], and it has the importance of being essential in establishing the impact of adiposity on increased myocardial infarction (MI) risk. However, in non-randomized studies, baseline differences of BC between groups to be compared may introduce bias in results.

Review Article **Published Date:-2021-03-19 00:00:00**

Management of hypertension in Nigeria: The barriers and challenges

In recent years there has been increasing concern about the growing burden of cardiovascular disease (CVD) in developing countries. Systemic hypertension remains the commonest form of CVD and is identified as a key modifiable risk factor for cardiovascular morbidity and mortality. Primary and secondary prevention of cardiovascular adverse events are public health priorities. This review highlights the potential barriers and challenges to hypertension care in Africa’s most populous country, Nigeria, and proffers relevant recommendations.

Research Article **Published Date:-2021-03-12 00:00:00**

Muscle growth and control of production of sarcomere components

Here I contrast the skeletal and cardiac muscle in terms of the control muscle growth and of sarcomere component synthesis. The differences are major and reflect the long term needs of the two systems. With the skeletal system there is growth of both the number of myocytes and the sarcomere components within them dependent on demand made of the muscle. Unlike skeletal muscles the normal adult heart is greatly restricted in size, number of myocytes and their content of contractile proteins, i.e. there is little change on demand. Over time proteins get damaged or decay and for the normal heart this implies a strictly controlled maintenance synthesis of sarcomere components. From the studies of abnormal, mutated systems there is one thing inherent to and more pronounced in cardiac muscle, the FrankStarling Law of the Heart derived from the angiotensin ii type 1 receptor that my studies indicate is central to the control of sarcomere component synthesis.

Case Report **Published Date:-2021-02-12 00:00:00**

An unusual presentation of atrioventricular nodal reentrant tachycardia

Introduction: Atrioventricular nodal reentrant tachycardia (AVNRT) is the most frequent supraventricular tachycardia, commonly manifesting as autolimited paroxysmal episodes of rapid regular palpitations that exceed 150 beats per minute (bpm), dizziness and pounding neck sensation.

Case presentation: We present a case of a male patient, 70 years old, with ischemic heart disease and slow-fast AVNRT treated with radiofrequency catheter ablation (RFCA) in March 2019, with regular 6-months follow-ups. He was readmitted in our department in November 2020 for rest dyspnea and incessant fluttering sensation in the neck, without palpitations. The event electrocardiogram (ECG) was initially interpreted by general cardiologist as accelerated junctional rhythm, 75 bpm. Due to the persistence of symptoms and ECG findings, a differential diagnosis between reentry and focal automaticity was imposed. The response to vagal maneuvers and Holter ECG monitoring characteristics provided valuable information. We suspected recurrent slow ventricular rate typical AVNRT, which was confirmed by electrophysiological study and we successfully performed the RFCA of the slow intranodal pathway.

Conclusion: AV nodal reentry tachycardia may have an unusual presentation, occurring in elder male patients with structural heart disease. Antiarrhythmic drugs can promote reentry in this kind of patients. In cases of slow ventricular rate, vagal maneuvers and Holter ECG monitoring can help with the differential diagnosis. The arrhythmia can be successfully treated with RFCA with special caution regarding the risk of AV block.

Review Article **Published Date:-2021-01-15 00:00:00**

New insights from cardiac muscle applied to skeletal muscle

I have recently described the origin of the second Ca2+ binding in the triggering of contractile activity in cardiac myofibrils that is the origin of the Ca2+ Hill coefficient of 2 for the ATPase. This site is not a simple protein binding site and cannot be measured by 45Ca2+ binding. The myofibril protein unit requirements are described by me and so are the consequences of disruption of the function of these units and the related medical outcomes. The purpose of this paper is to review the topic and extend the reasoning to the function of skeletal muscle and cite the literature that supports this.

Research Article **Published Date:-2021-01-05 00:00:00**

Evidence of woven bone formation in carotid artery plaques

Objective: Plaque morphology plays an important prognostic role in the occurrence of cerebrovascular events. Echolucent and heterogeneous plaques, in particular, carry an increased risk of subsequent stroke. Depending on the quality of the plaque echogenicity based on B-mode ultrasound examination, carotid plaques divide into a soft lipid-rich plaque and a hard plaque with calcification. The aim of this study was to investigate structural changes in the basement membrane of different carotid artery plaque types.

Patients and methods: Biopsies were taken from 10 male patients (average age; 75 + 1 years) and 7 females (68 + 3 years). The study population included patients suffering from a filiform stenosis of the carotid artery, 8 patients with acute cerebrovascular events and 9 with asymptomatic stenosis. Scanning electron and polarised light microscopic investigations were carried out on explanted plaques to determine the morphology of calcified areas in vascular lesions.

Results: By means of scanning electron microscopy, multiple foci of local calcification were identified. The endothelial layer was partially desquamated from the basement membrane and showed island-like formations. Polarised light microscopy allows us to distinguish between soft plaques with transparent structure and hard plaques with woven bone formation.

Conclusion: The major finding of our study is the presence of woven bone tissue in hard plaques of carotid arteries, which may result from pathological strains or mechanical overloading of the collagen fibers. These data suggest a certain parallel with sclerosis of human aortic valves due to their similar morphological characteristics.