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Research Article **Published Date:- 2019-11-08**

Incidence of hypertension in a high-risk workgroup (Police officers) - Observational study

Introduction: Hypertension is a silent pathology in a way that affects all four spheres to be considered as such; magnitude, transcendence vulnerability, and feasibility. The World Health Organization estimates that 45% of deaths from heart disease and 51% of deaths from stroke globally are caused by hypertension.

Material and method: A longitudinal, descriptive and quantitative observational study was carried out on the personnel of high-risk public service providers.

Results: The total population sampled was 550 people where it was possible to determine the sex where the disease predominates, since 92% of the hypertensive population belong to the male sex, while 8% of the female population. 57% of the total population were classified as normotensive, while 21% were classified as High Normal, Grade I Hypertension, and Grade II Hypertension.

Discussion: AHT is the result of a series of interactions between endogenous and exogenous factors in an organism that tries to adapt to the increase of the cardiac output and the peripheral resistance of the blood vessels, which is manifested by the increase in blood pressure figures. Physical activity has been shown to have a lower risk of hypertension compared to sedentary individuals. The daily stress these workers face predisposes them to suffer their manifestations as headache, muscle pain, fatigue, digestive disorders and constant elevations of blood pressure.

Research Article **Published Date:- 2019-10-23**

Compliance of hypertensive patients with antihypertensive drug therapy at the Renaissance Hospital of N'Djamena, Chad

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Introduction: High blood pressure is a major cardiovascular risk factor. In hypertension, non-compliance is frequent. The objective of this work is to evaluate the therapeutic observances and to identify the predictive factors of poor compliances in Chadian hypertensive patients.

Patients and Methods: It was a prospective cross-sectional study over a six-month period from January 15 to July 15, 2019. This was performed in the outpatient Cardiology and Nephrology units at the Renaissance Hospital of N'Djamena. We included all follow-up patients who had hypertension who consulted during the study period. However, dialysis patients and children were excluded from this study. The parameters studied were demographic characteristics, economic and therapeutic data and the rate of therapeutic compliance.

Results: Eighty-seven patients were included. The average age was 50 years old. The sex ratio was 2.5. Sixty-seven percent (n = 58) of the patients were from urban areas. The predominant cardiovascular risk factors were smoking in 25% (n = 22) and diabetes in 23% (n = 20). Hypertension was uncontrolled in 76% (n = 66) patients. Adherence was poor in 66% (n = 57) of patients. The monthly cost of treatment was respectively 10,000 and 20,000 FCFA in 52% (n = 45) of cases. Combination therapy was observed in 70% of cases (n = 61) and 56% (n = 49) of patients had more than one drug intake. The adherence rate was 93% (n = 28) in the urban population ($p < 0.001$). All patients (n = 30) who were observing their treatment were educated ($p < 0.001$). The adherence rate was 20% (n = 6) in patients who had a monthly income less than 100,000 FCFA ($p = 0.004$). The adherence rate was 60% (n = 18) when the monthly cost was less than FCFA 10,000 ($p = 0.003$). The adherence rate was 77% (n = 23) in patients receiving monotherapy ($p < 0.001$).

Conclusion: This study showed a low level of adherence in Chadian hypertensive patients. The complexity and cost of antihypertensive therapy, poor knowledge of hypertension, and ignorance of its severity have been the main factors of poor compliance.

Research Article **Published Date:- 2019-08-13**

Validation of the Omron HBP-9031C blood pressure monitor for clinics and hospitals according to the ANSI/AAMI/ISO 81060-2:2013 protocol

Objective: The present study aimed to evaluate the accuracy of the Omron HBP-9031C automated oscillometric upper-arm blood pressure (BP) measurement device for blood pressure monitoring, according to the ANSI/AAMI/ISO 81060-2:2013 protocol (ANSI/AAMI/ISO).

Participants and Method: The device evaluations were performed in 85 participants, who fulfilled the inclusion criteria of the protocol. The validation procedure and data analysis followed the protocol precisely.

Results: In the ANSI/AAMI/ISO 81060-2-2013 validation procedure (criterion 1), the mean ± SD of the differences between the test device and reference BP was 0.5 ± 7.84/-1.9 ± 6.30 mmHg (systolic/diastolic). The mean differences between the two observers and the Omron HBP-9031C were 0.5 ± 6.69 mmHg (range, ?18 to 15 mmHg) for systolic BP and -1.9 ± 5.63 mmHg (range, ?17 to 14 mmHg) for diastolic BP, according to criterion 2. The two criteria of the ANSI/AAMI/ISO were fulfilled.

Conclusion: The professional OMRON BP monitor, HBP-9031C fulfilled the requirements of the ANSI/AAMI/ISO validation standard and can be recommended for clinical use.

Review Article **Published Date:- 2019-07-24**

The New (2018) European Hypertension Guidelines an overview & comments

The European Society of Cardiology (ESC) and the European Society of Hypertension (ESH) jointly developed a series of hypertension guidelines in the years 2003, 207 and 2013. The most recent guidelines were issued by the two societies in August this year (2018) and were published in the European Heart Journal. The new guidelines are printed in more than 90 pages and cover almost all aspects of hypertension based on extensive review of literature giving highest priority to data from randomized controlled trials and well conducted meta-analysis. In important areas where there is inadequate or no evidence, guidelines authors resort to expert opinion. The text was developed over approximately 24 months and was reviewed by representatives of ESC and ESH national hypertension societies. Although it is less than five years since the last hypertension European guidelines in 2013, the recent 2018 guidelines show important differences in diagnosis and treatment strategies with the addition of new sections and recommendations on management of hypertensive emergencies, hypertension in women and pregnancy, different ethnic groups, chronic obstructive pulmonary disease, cancer therapies, peri-operative management, sexual dysfunction and perioperative management.

Mini Review **Published Date:- 2019-06-27**

Circulating platelet-derived vesicle in atrial fibrillation

Platelet vesiculation is common factor contributing in coagulation and thromboembolism in patients with atrial fibrillation (AF). Platelet-derived vesicles are involved in the coagulation, thromboembolism, microvascular inflammation, arterial stiffness, vascular calcification, atherosclerotic plaque shaping and rupture, endothelial dysfunction, cardiac remodelling, and kidney dysfunction. Recent clinical studies have revealed elevated concentrations of platelet-derived vesicles in peripheral blood of patients with current AF and history of AF. The aim of the mini review is to discuss the role of platelet-derived micro vesicles as predictive biomarker in AF. Serial measures of circulating levels of platelet-derived vesicules are discussed to be useful in stratification of AF patients at risk of thromboembolic complications, but there is limiting evidence regarding their predictive value that requires further investigations in large clinical trials.

Review Article **Published Date:- 2019-04-03**

Hypertension as a persistent public health problem. A position paper from Alliance for a Healthy Heart, Mexico

Today, Mexico has more than 130 million inhabitants; 85 millions of them are adults of 20 or more years old. The population pyramid is still one of base wider and this base corresponds to adults younger than 54 years old. Despite predictions made 20 years ago, about a transformation of the population pyramid shape to a mushroom shape as a consequence of more life expected and adult population growth; this change has not been occurred. Hypertension has become the biggest challenge of noncommunicable chronic diseases to public health in Mexico. Around 30% of adult Mexican population has hypertension; 75% of them have less than 54 years old (in productive age); 40% of them are unaware but only 50% of aware hypertensive population takes drugs and, 50% of them are controlled (< 140/90 mmHg). Cardiovascular risk factors including hypertension, dyslipidemia, obesity, and diabetes often cohabit in the same person and are magnified one to another in terms of common pathophysiological pathways. Atherosclerosis, arrhythmias, stroke and heart failure are common and are the final pathologic end-points and explains why cardiovascular diseases occupy first place in mortality in Mexico and worldwide. The costs of care for these diseases are billionaires and if we do not generate appropriate strategies, their global impact can become a high threat to social development of the country. The life style like nutrition, sports habits of the Mexicans must be emphasized; there is poor education about this crucial topic. This position paper is focused on the principal controversies and strategies to be developed by all, government, society, physicians, nurses, patients and all people related with healthcare of hypertension, in order to confront this huge public health problem in Mexico.

Research Article **Published Date:- 2019-01-28**

Heart Failure with preserved Ejection Fraction (HFpEF); A Mexican cohort from Mexican Institute of Social Security (IMSS)

Background: Several epidemiologic studies indicate that up to 50% of patients with heart failure have a preserved ejection fraction, and this proportion has increased over time. The knowledge of its severity and associated comorbidity is determining factor to develop adequate strategies for its treatment and prevention. This study was focus on the creation of a cohort and follow-up of Mexican population and to analyze its severity as well as its interaction with the comorbidity of other cardiovascular risk factors.

Methods: We included patients from different sites of Mexico City than were sent to the Cardiology hospital of the National Medical Center in Mexico City for the realization of an echocardiogram as part of their assessment by the presence of dyspnea, edema, or suspicion of hypertensive heart disease. Complete medical history, physical examination and laboratory studies including Brain Natriuretic Peptide (BNP) serum levels were performed. Diagnosis of diastolic dysfunction was based on symptoms and echocardiographic data including time of deceleration, size of left atrium, e´ septal and e´ lateral, as well as E wave, A wave and its ratio E/A. All patients had left ventricle ejection fraction > 45%.

Results: We included 168 patients with HFpEF. The most common risk factor was hypertension (89.2%), followed by overweight and obesity (> 78.5%), dyslipidemia (82.1%) and diabetes (42.8%). Women were dominant, 108 (64.3%); the mean age was 63 years old. When we classify by severity of diastolic dysfunction, we found that 41.1% were grade I, 57.1% were grade II and only 1.8% were grade III. The risk factors most strongly associated with the severity of diastolic dysfunction were hypertension, obesity and dyslipidemia. We found BNP levels highly variables, but the levels were higher detected as the ejection fraction was approaching to 45%. At one year of follow up mortality was not reported.

Conclusion: HFpEF is a frequent entity in patients with cardiovascular risk factors in Mexico. The most common risk factor was hypertension. The combination of hypertension, overweight and dyslipidemia predicted the severity of diastolic dysfunction. We recommend that all Mexican patient with hypertension and overweight or obesity should be submitted as a part of its medical evaluation to an echocardiogram study in order to detect diastolic dysfunction even though the signs or symptoms are or not evident.