

CLINICAL AND DEMOGRAPHIC CHARACTERISTICS OF PATIENTS WITH COEXISTENT HYPERTENSION AND TYPE 2 DIABETES MELLITUS: RESULTS FROM THE LARGEST RETROSPECTIVE EMR STUDY FROM INDIA

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Objective: Common end-organ manifestations of diabetes and hypertension predispose patients to develop cardiovascular diseases (CVD). The data on coexistent hypertension and diabetes mellitus (dual disease) in India is scarce. In patients with dual disease CVD risk is amplified, therefore necessitating better understanding of their current clinical characteristics and care gaps.

Design and method: This was an EMR based, retrospective, multicenter, cross sectional, database study to evaluate the demographic and clinical profile of adult patients with age more than 18 years having coexistent Hypertension and Type 2 Diabetes in India. Data of patients with Type 1 Diabetes Mellitus, Familial Hypercholesterolemia and pregnant females were excluded

Results: Data of 6722173 (6.7 million approx.) patients with age more than or equal to 18 years registered in EMR from January 2021 to December 2021 was extracted from the EMR database. Out of these patients, 279072 (4.15%) patients were found to have coexistent hypertension and diabetes mellitus. Mean age was noted to be 57.9 years and 52% of them were males. The mean BMI of the patients was 28.07 kg/m², and 72% of patients had an above normal BMI (>24.99). The mean SBP and DBP in mmHg were noted to be 141.08 and 84.05, respectively. Only 9.3% and 22% of patients had a normal SBP and normal DBP, respectively. The mean HbA1c of the patients was 8.47% with only 27.7% of patients having HbA1c <7%. ARBs (16.2 %) and combination of anti-hypertensive with diuretics (10.9 %) were most used for hypertension. Biguanides and its combination with sulphonylureas were used in 53.5% and 32% of patients with diabetes, respectively.

Conclusions: The findings suggests that control of dual disease in India is inadequate despite current therapy being offered, this puts patients at a higher risk for early-onset CVD. Hence, there is an urgent need to create awareness and optimize management of coexistent hypertension and diabetes.

ERECTILE DYSFUNCTION IN HYPERTENSIVE PATIENTS: SCREENING AND MANAGEMENT BY GENERAL PRACTITIONERS IN FRANCE

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Objective: Non-compliance remains one of the main factors of poor blood pressure control in France and worldwide. Erectile dysfunction (ED), a cardiovascular risk factor (CVRF), is common in hypertensive patients. The general practitioner (GP) is in the front line in the management of hypertension and is often the first point of contact in the event of ED.

To review the knowledge and practices of a sample of French GPs to promote the French Society of Hypertension (SFHTA) expert consensus on ED in hypertensive patients.

Design and method: Descriptive observational study, carried out in a declarative mode via a Google Forms questionnaire distributed to 102 GPs practicing in Seine-St-Denis.

Results: GPs (94,1 %) didn't know the French Expert Consensus of the SFHTA, regardless their age or their mode of exercise. Only 10% of the GPs talked about ED with their patient regularly, whereas 68.6% of them declared to be comfortable discussing sexuality. GPs recognized ED as CVRF marker and were aware of possible side effects of the antihypertensive treatment on sexual function of their patient. However, the GPs were divided on the fact of warning the patients of the possible side effect of the treatments.

Conclusions: Beyond the fact that the French Expert Consensus of the SFHTA concerning ED in hypertensive patients (2018) is not known in GPs, this work also highlights the difficulty of addressing the subject in consultation. Not prescribing beta-blockers in hypertensive patients (without any other indication) and identifying hypertensive patients with CVRF a fortiori with several drug classes are key elements for the best management of ED and combat non-compliance in hypertension.

PREVALENCE, COMORBIDITIES AND CONTROL OF HYPERTENSION IN A WEST AFRICAN PERI-URBAN POPULATION

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Objective: In sub-Saharan Africa, hypertension has become a major public health problem that contributes to the increase in premature deaths in this region. The objective of this survey was to investigate comorbidities and determine the level of hypertension control in hypertensive patients in a West African population

Design and method: This cross-sectional survey concerned adults aged 18 and over and was conducted in a peri-urban population in West Africa (Côte d'Ivoire). Sociodemographic data (age, sex, marital status, education level, occupation) were collected. A history of diabetes and hypertension was sought. Lifestyle data (tobacco and alcohol consumption) and some cardiovascular risk factors were collected. Blood pressure was measured with an OMRON M6 electronic blood pressure monitor in the sitting position after 5 minutes of rest. Capillary blood glucose was measured with a glucometer in fasting participants. Weight was measured by a scale and catch on the identity document. Hypertension was defined as systolic blood pressure greater than or equal to 140 mm Hg and/or diastolic blood pressure greater than or equal to 90 mm Hg and/or antihypertensive treatment during

Results: Three hundred and eighty (380) people were surveyed, 39.8% were men and 60.2% women. The average age was 40.4 ± 13.8 years. The 35-44 age group represented more than a quarter of the population. The mean systolic blood pressure was 128.6 ± 25.3 mmHg. The mean diastolic blood pressure was 80.6 ± 13.7 mmHg. The prevalence of hypertension was 39.2%, more than half of the population were women. Hypertension affected 41.6% of men and 58.4% of women; women were more hypertensive than men (p = 0.03). Among those with known hypertension, 31.6% had controlled blood pressure. The prevalence of diabetes was approximately 10%. Nine percent (9%) of individuals had both hypertension and obesity and less than two percent had the comorbidity hypertension, diabetes, and obesity.

Conclusions: In this African population, less than half of the hypertensive individuals had their blood pressure controlled. The focus should be on awareness to avoid complications

ARTERIAL WALL CONDITION IN WOMEN WITH HYPERTENSION AND POSTMENOPAUSAL OSTEOPOROSIS

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Objective: The aim of the study was to investigate the indices of arterial stiffness and central aortic pressure in women with hypertension in combination with osteoporosis.

Design and method: The study included 68 females (mean age 62.7±3.8 years) with hypertension, grade 2 in postmenopause including 35 females with osteoporosis (group 1) and 33 females without signs of osteoporosis (group 2) according to osteodensitometry investigation. The control group consisted of 20 healthy females (mean age 61.3±3.5 years). Before the study, the patients did not receive regular antihypertensive drugs and hormone replacement therapy. In addition to conventional studies the levels of calcium, phosphorus, alkaline phosphatase, deoxypyridinoline, parathyroid hormone, 25(OH) vitamin D, osteocalcin, C-terminal telopeptide of type I collagen in blood were determined. Fracture risk assessment (FRAX), daily blood pressure monitoring, applanation tonometry and dual-energy X-ray absorptiometry were performed.

Results: It was found that in group 1 the levels of office systolic blood pressure (SBP) and diastolic blood pressure (DBP) were 3.7% and 4.9% (p<0.05) higher than in group 2. According to the data of daily BP monitoring a more pronounced increase of mean daily SBP and DBP by 4.1% and 6.6% (p<0.05) was observed in group 1 in comparison to group 2. Indicators of pressure load according to the time index of hypertension by SBP and DBP were significantly higher by 21.7% and 25.4% during the day and 22% and 18.2% at night (all p<0.05). In patients of group 1 an increase in the aortic augmentation index of wave reflection (Aix) and the augmentation index of wave reflection, adjusted for heart rate (Aix @ HR 75) by 26.6% and 29.8% compared to patients of group 2 respectively, was revealed. It was found that in group 1, compared with the control group and group 2, an increase in pulse wave velocity by 37.2% and 26.4% respectively was detected.

Conclusions: It was found that in patients with hypertension in combination with postmenopausal osteoporosis, according to office, daily monitoring and applanation tonometry, blood pressure levels and arterial stiffness parameters were significantly higher than in patients with hypertension without osteoporosis.

SERUM N-TERMINAL PRO-B-TYPE NATRIURETIC PEPTIDE LEVEL IS NEGATIVELY ASSOCIATED WITH VASCULAR REACTIVITY INDEX BY DIGITAL THERMAL MONITORING IN PATIENTS WITH HYPERTENSION

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Objective: B-type natriuretic peptide (BNP) participates in the coordination of endothelial regeneration/hypertrophy and the accompanying angiogenesis. Endothelial dysfunction is associated with increased mortality in patients on hypertension. The present study aimed to determine the relationship between serum N-terminal pro-B-type natriuretic peptide (NT-pro-BNP) level and endothelial dysfunction in patients with hypertension

Design and method: The present cross-sectional, single-center study included 90 hypertension patients. An electrochemiluminescence immunoassay was used to measure NT-pro-BNP levels. The endothelial function and vascular reactivity index (VRI) were measured using digital thermal monitoring (DTM) test (VENDYS). In this study, VRI < 1.0 was used as the poor vascular reactivity, 1.0 < VRI < 2.0 was used as the intermediate vascular reactivity, and VRI > 2.0 was used as the good vascular reactivity.

Results: Eight hypertensive patients (8.9%) were categorized as poor vascular reactivity (VRI < 1.0), 39 hypertensive patients (43.3%) were categorized as intermediate vascular reactivity (1.0 < VRI < 2.0), and 43 hypertensive patients had good vascular reactivity. Older age ($p = 0.012$) and higher serum NT-pro-BNP level ($p < 0.001$) was associated with poor vascular reactivity. Advanced age ($r = -0.221$, $p = 0.036$) and logarithmically transformed serum level of NT-pro-BNP (\log -NT-pro-BNP, $r = -0.505$, $p < 0.001$) was negatively associated with VRI values in hypertensive patients. After multivariable forward stepwise linear regression analysis noted that serum \log -NT-pro-BNP level (adjusted R2 change = 0.246, $p < 0.001$) was significantly and independently associated with VRI values in hypertensive patients.

Conclusions: Serum \log -NT-pro-BNP levels were negative associated with VRI and associated with endothelial dysfunction in patients with hypertension.

INCREASED SERUM SCLEROSTIN LEVEL IS A RISK FACTOR FOR PERIPHERAL ARTERY OCCLUSIVE DISEASE IN PATIENTS WITH HYPERTENSION

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Objective: Sclerostin is associated with endothelial inflammation and vascular calcification and therefore contributes to atherosclerosis disease. Hypertension is one of risk factors of peripheral arterial occlusive disease (PAOD), is associated with increased mortality in patients with hypertension. The aim of this study was to determine the relationship between serum sclerostin level and PAOD in patients with hypertension.

Design and method: Fasting blood samples and baseline characteristics were obtained from 92 hypertensive patients. ABI values were measured using an automated oscillometric device. Patients with ABIs of <0.9 were categorized into the low ABI group. The serum sclerostin and dickkopf-1 (DKK1) concentrations were determined using commercially available enzyme-linked immunosorbent assays.

Results: In total, 14 patients with hypertension (15.2%) were in the low ABI group. When compared to those in the normal ABI group, the low ABI group had high rates of diabetes mellitus ($P = 0.044$) as well as the high serum C-reactive protein levels ($P = 0.001$) and sclerostin levels ($P < 0.001$), but the serum DKK1 level did not find this association ($P = 0.639$). The multivariable logistic regression analysis revealed that serum levels of sclerostin (odds ratio [OR]: 1.052, 95% confidence interval [CI]: 1.018–1.088, $P = 0.002$) was independently associated with PAD in patients with hypertension.

Conclusions: Serum levels of sclerostin, but not DKK1, were associated with PAOD in patients with hypertension.

ARTERYAL HYPERTENSION AND VERY ELDERLY PATIENTS. THE EXPERIENCE OF AN INTERNAL MEDICINE DEPARTMENT

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Objective: The purpose of this study is to highlight the clinical and paraclinical characteristics of fragile hypertensive patients, over 85 years old, admitted to a mixed internal medicine department (Covid and non-Covid) between January 2022 and October 2022.

Design and method: Between January 2022 and October 2022, 80 patients with a primary or secondary diagnosis of arterial hypertension were admitted, of which only 23 (28.75%) were over 85 years old. Of the 23 patients, 13 (56.52%) were hospitalized with a diagnosis of Sars Cov 2 infection. Regarding the gender distribution, 12 are women (52.17%) and 11 are men (47.82%). Patients comorbidities: 14 patients (60.86%) with different degrees of heart failure, atrial fibrillation (39.13%) - 8 patients and one patient was diagnosed with atrial fibrillation during hospitalization, cognitive disorders and dementia in a proportion of 47.82% (11 patients) and a significant number of patients were admitted with moderate-severe anemia (13 patients, 56.52%). Of the 9 patients with atrial fibrillation, 5 are male (55%) and 4 (45%) female, cardiac enzymes (troponin and CK MB) are within normal limits in 8 patients. During the medical tests, 3 patients (13.04%) were diagnosed with different of neoplasia. Only 2 patients (8.69%) presented slight dyselectrolytemia (hyponatremia and hypokalemia).

Results: Pathologies are treated with: angiotensin converting enzyme inhibitors (17.39% - 4 patients), calcium channel blockers (39.13% - 9), anticoagulants (39.13% - 9 patients), diuretics (26.08% - 6 patients) and beta blockers (11 pac-47.82%).

13 patients (56.52%) died and 43.47% were discharged with an improved condition. 9 patients died as a result of Covid multiple organ system failure, 1 death was of cardiovascular cause and 3 non-Covid pulmonary failure deaths.

Conclusions: Frail patients, older than 85 years, with multiple comorbidities, require detailed investigations and adjustments of medication doses according to their status in order to maintain the discreet balance in which they are.

THE COURSE OF CHRONIC HEART FAILURE IN PERSONS WITH POST-INFARCTION CARDIOSCLEROSIS WITH ARTERIAL HYPERTENSION AND TYPE 2 DIABETES MELLITUS AND OBESITY ACCORDING TO A NUMBER OF MET

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Objective: To investigate the effect of lipid metabolism, biomarkers of fractalkin and clusterin inflammation on the development and progression of chronic heart failure (CHF) in patients with post-infarction atherosclerosis, type 2 diabetes and obesity.

Design and method: A retrospective analysis of a comprehensive examination of 67 patients with postinfarction atherosclerosis with concomitant type 2 diabetes and obesity. All patients were divided into 3 groups depending on the functional class (FC) of CHF: 1 group (n = 22) - patients with CHF II FC; Group 2 (n = 23) - patients with CHF III FC; Group 3 (n = 22) - patients with CHF IV FC. All patients were examined clinically, they underwent instrumental, biochemical and hormonal examinations.

Results: With the progression of CHF from FC II to FC III there is a deterioration of lipid metabolism: a significant increase in cholesterol levels by 5.5%, TG – by 15.7%, LDL cholesterol – by 74.4%, VLDL cholesterol – by 15.9%, reduction of HDL cholesterol by 27.6% ($p < 0.05$). An analysis of the fractal equation showing that ailing on CHF is advised by FC; and the level of clusterin - on the contrary decreases. Classical changes in patients with postinfarction atherosclerosis with CHF and concomitant type 2 diabetes mellitus and obesity, which are the formation of atherogenic lipid metabolism disorders associated with body weight, as well as changes in the latest indicators such as fractalkin and clusterin, indicating the role of these molecules in the progression of CHF.

Conclusions: Due to the progression of chronic heart failure in patients with postinfarction atherosclerosis and AH concomitant type 2 diabetes and obesity, an increase in all fractions of lipoproteins at stage III functional class was diagnosed, and then their decrease, which may indicate a deterioration in this category of patients, due to the progression of metabolic shifts, stagnation, dysfunction of the main parenchymal organs. Increased circulatory levels of fractalkin and decreased