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RESEARCH ARTICLE

CLINICAL VALDATION SUPPORTIVE PHARMACOLOGICAL BASIS OF THERAPEUTICS AND ADVERSE EFFECTS OF ANTIHYPERTENSIVES

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ABSTRACT

Peanut, Hypertension was a common issue that while maybe not effectively treated achieved colossally extended probability of CVS and CNS-related disorder to survey the remedy design for hypertensive patients after the endorsement to establish the patient's drug-related issues. There are around 1,500 all-out patients who were thought about for the review, out 500 patients examination of SGOT level has broadcasted HT and a patients after the medications taken SGOT levels for just with HT ($39.7 \pm 3.613 \downarrow$) hypertension were essentially diminished when contrasted with before drugs taken under HT & associated diseases The investigation of SGPT level has shown HT and associated disease patients after the medications taken SGPT levels for hypertension ($33.8 \pm 3.291 \downarrow$) were fundamentally diminished when contrasted with before drugs taken HT & associated were extensively diminished when contrasted with before drugs taken under HT & associated patients later than the medications taken HT + bradycardia ($10.62 \pm 0.0265 \uparrow$) and HT + disease (10.62 ± 0.0025) patients levels of calcium were radically expanded when contrasted with before drugs taken HT & associated and uncovered HT and associaed patients after the medications taken sodium levels for hypertension ($2.5 \pm 0.0601 \downarrow$) and hyperlipidemic ($2.8 \pm 0.0156 \downarrow$) were considerably diminished when contrasted with before drugs taken. The HT research labourers will accomplish research work on the relationship among receptors and controlled exogenously saw-made substances and find the compound part for the treatment of HT and related diseases, which will be essential to diminish HT and its associated hardships commonness in the Kerala zone.

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INTRODUCTION

Hypertension (HT) is a typical problem that while perhaps not successfully treated brings about an enormously expanded likelihood of coronary apoplexy, strokes, and renal disappointments. It is assessed that the predominance of hypertension in India is around 25% among metropolitan grown-ups and 10% in the country regions. The lifetime hazard of creating hypertension is assessed to be 90%. Hypertension is portrayed as the supported expansion in blood vessel circulatory strain to a degree that implies a systolic pressure of more noteworthy than 140 millimetres of mercury (mmHg) and diastolic pressure more noteworthy than 90 mmHg. Normotension is a systolic pressure under 140 mmHg and diastolic pressure under 90 mmHg. The circulatory system creates the higher power with which blood pressure against the walls of blood vessels. Untreated hypertension can affect the heart's size causing cardiovascular breakdown. Little lumps (aneurysms) framing in veins are ordinarily found in the gaps of the heart (aorta), cerebrum, legs, digestive tract, and spleen.

The expanded pulse at last prompts coronary episode, stroke, kidney disappointment, or removal of a piece of the leg. The veins of the eyes might explode or drain, causing vision changes and bringing about visual deficiency. The predominance among grown-up people has been assessed from ranges 4.75% to 25.6%. Due to different kinds of unfavourable responses, advantages, contraindications, and costs the choice of proper medications was vital for achieving a therapeutic effective level. High Blood pressure remains a major gamble factor for non-motile CVS-related diseases like 62% of Strokes and 49% of Myocardial Infarctions distributed in India. According to the JNC-7 Report, for people Older than 50 years, a Systolic pressure of More than 140 mmHg has substantially more significant prevalence for HT. Thiazide diuretics are utilized for uncomplicated HT which followed by ACEIs, angiotensin blocker receptors and calcium channel blockers were utilized. The resultant changes in the way of life, aimless propensities, absence of actual work, smoking mounting pressure at work, and so on, have been causing hypertension. WHO in 2021 revealed the commonness of hypertension was 40% in people over 25 and caused 7.5 million passages contributing to one-eighth of passages in the year 2019. The report likewise shows that hypertension

gives rise to cardiovascular issues, renal infections, and Paralysis. Yet, the silver lining is that cutting down circulatory strain to 140/90 mmHg can cut down complications. Polit and Back2 show that well-being advancement along with counteraction of preventable infections implies the cost of a more modest size contrasted with that for treatment of sicknesses. Being a chronic illness the specialists can't have command over this infection. Subsequently, every person in the general public alongside the worry associations ought to assume their due liability to rehearse the right lifestyle. WHO 20093 shows issues prompting mortality on account of noncommunicable illnesses are specific as raised blood glucose at 6%, ascend in B.P. at 13%, actual inertia, and weight at 5%, and utilization of tobacco and related items at 9%. Several investigations lay weight on adherence to standard propensities as significant. in everyday life is vital.

MATERIALS AND METHODS

The patient concern forms for blood collection were created and signed by patients with their consent. The vein was discovered by either applying hot water or a belt. After the vein was identified, cotton was used to apply Sprit or 70% ethanol for aseptic conditions (free of microorganisms). The sanitized needle fixed needle was embedded into the vein, and gradually apply the back strain to gather the 5ml of blood tests, which were placed into the assortment tube containing anticoagulant the wake of adding the blood tests to the assortment tube, which was prompted quick manual shaking for 5 mins to forestall the blood coagulation and put away in a - 22° C incubator. Marking the blood assortment tube before the assortment of blood tests and adding 3.8 % of 0.5 ml of sodium citrate (go about as an anticoagulant) for 5 ml of blood test in assortment cylinder to the blood coagulation. Rotator mechanical assembly instrument utilized for the division of plasma from gathered blood tests. The assortment tubes containing blood tests were kept in a contrary shaft and set the instrument in 5000 revolutions for each min for 5min. after 5min serum and plasma were isolated and kept in an aseptic conditions.^{7& 93} The self-loader analyzer (Miniature lab 300, Merck Organization) was utilized to assess how much serum glucose level, SGOT, SGPT. Sodium and Calcium 30 minutes before the experiment begins, turn on the instrument. The instrument was normalized by utilizing clear and standard arrangement and standard qualities are fed to the instrument. The micropipette took 50 l of the serum and added it to the pan drops tube along with 1000 l of the SGOT reagent, which was kept under the sample inlet. After a brief pause, take note of the reading. Fifty µl of serum was taken by the micropipette, which was put into the epandrops tube added 1000 µl of SGPT reagent, which was held under the example channel. Stand by a couple of moments seconds and notice the perusing. The micropipette took 50 ml of the serum and added it to the pan drops tube along with 1000 ml of total cholesterol (HDL and LDL) reagent, which was kept under the sample inlet. After a brief pause, the reading4 and Reagent unit for quantitatively estimating the plasma action of glutamate oxaloacetate transaminase were recorded.

RESULTS AND DISCUSSION

6.26. SGOT: The analysis of SGOT level has publicized HT & A Patients after the drugs taken TCH levels for only with HT (39.7 ± 3.613↓) hypertension (31.9 ± 0.466↓), hyperlipidemic (20.8 ± 03733↓), bradycardia (0.2 ± 0.009↓) and angina pectoris (9.5 ± 0.743↓) were significantly decreased (P<0.05)*, (P<0.001)** & (P<0.0001)*** when compared to before drugs taken under HT & A. The TCH levels of HT + tachyarrhythmias (40.1 ± 0.073↑), myocardial infarction (34.7 ± 0.035↑), HT + congestive heart failure (22 ± 0.1↑), HT + inflammation (12.8 ± 0.013↑), infection (0.4 ± 0.003↑) were relatively amplified when compared to after drugs taken under HT & A diseases such as only with HT (39.7 ± 3.613↑), hyperlipidemic (20.8 ± 03733↓), hypertension (31.9 ± 0.466↓), bradycardia (0.2 ± 0.009↓) and angina pectoris (9.5 ± 0.743↓). Within the group evaluation results have expressed that the founded before

drugs taken TCH levels were decreased to different systematic situations such as HT + tachyarrhythmias (45.7 ± 0.36↓), HT + myocardial infraction (34.5 ± 0.077↓), HT + congestive heart failure (30.8 ± 1.023↓), HT + inflammation (11.8 ± 0.474↓), HT + hypertension (5.2 ± 5.714↓), HT + infection (3.8 ± 1.599↓), HT + bradycardia (3.5 ± 0.141↓), HT + hyperlipidemic (9.7 ± 3.212↓) and HT + angina pectoris (1.3 ± 1.835↓) compared to only with HT (234.6 ± 1.525) patients group. The results within the groups indicated after drugs were taken TCH levels were increased to different clinical conditions such as HT + inflammation (35.1 ± 0.484↑), HT + myocardial infraction (34.2 ± 0.039↑), HT + infection (30.7 ± 1.599↑), HT + bradycardia (30.4 ± 0.153↓), tachyarrhythmias (28.5 ± 0.284↑), HT + angina pectoris (25.9 ± 1.089↑) HT + congestive heart failure (25.3 ± 1.12↑) and HT + hyperlipidemic (3.6 ± 2.836↑) when compared to after drugs taken group of only with HT (209.5 ± 1.528) but TCH level was frequently decreased on HT + hypertension (3 ± 5.714↓) condition.

Table 1. Analysis of SGOT by HT+ different associated diseases condition

HT associated diseases	Before Drugs Taken	After Drugs Taken
Only with HT	243 ± 1.5	210 ± 1.5***
Hyperlipidemic	233 ± 4.7**a	213 ± 4.4**
Hypertension	238 ± 7.3*a	207 ± 6.8**
Infections	240 ± 3.2*a	240 ± 3.1*
Inflammation	232 ± 2*a	245 ± 2.0*
Myocardial Infraction	209 ± 1.6***a	244 ± 1.6***
Congestive Heart Failure	212.8 ± 3***a	235 ± 2.7***
Tachyarrhythmia	198 ± 2***a	238 ± 1.9***
Bradycardias	240 ± 1.384	240 ± 1.4***
Angina Pectoris	245 ± 3.360	236.4 ± 2.7***

The SGOT levels were communicated Mean±SEM (N=50) assessed by utilizing One Way ANOVA taken after by Dunnet t-test (P<0.05)*, (P<0.001)** and (P<0.0001)***

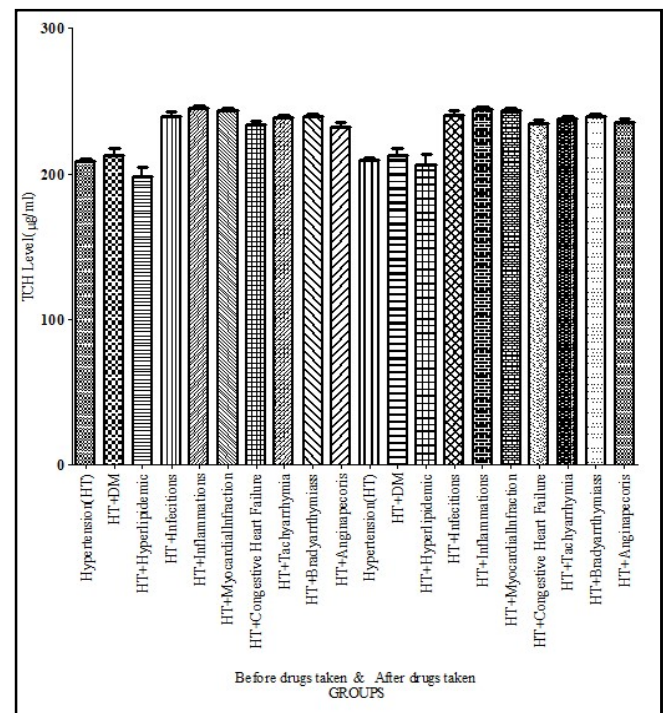


Fig. 1. Analysis of SGOT by HT + different Associated Diseases condition

SGPT: The analysis of SGPT level has shown HT & A patients after the drugs taken LDL levels for hypertension (33.8 ± 3.291↓) were significantly decreased (P<0.05)*, (P<0.001)** & (P<0.0001)***

when compared to before drugs taken HT & A patients like as congestive heart failure ($9.4 \pm 2.055\downarrow$) inflammation ($7.9 \pm 0.527\uparrow$), bradycardia ($2.4 \pm 0.13475\downarrow$) and tachyarrhythmia ($1 \pm 0.6225\downarrow$). Another way of analyzing LDL levels results revealed HT & A patients after the drugs taken LDL levels for hyperlipidemic ($39.7 \pm 3.613\uparrow$) were significantly increased ($P<0.05$)*, ($P<0.001$)** & ($P<0.0001$)*** when compared to before drugs taken HT & A patients SGPT levels indicated increasing order such as angina pectoris ($37.2 \pm 1.151\uparrow$), myocardial infarction ($14.6 \pm 0.632\uparrow$), infection ($3.8 \pm 1.002\uparrow$) and only with HT ($1.3 \pm 0.267\uparrow$). Within the group assessment results have articulated that the found previous to drugs taken SGPT levels were increased to dissimilar scientific circumstances such as HT + hypertension ($40.9 \pm 3.881\uparrow$), HT + congestive heart failure ($15.9 \pm 1.899\uparrow$), HT + inflammation ($11.4 \pm 0.227\uparrow$), HT + infection ($8 \pm 0.805\uparrow$), HT + tachyarrhythmia ($6.4 \pm 0.159\uparrow$), HT + bradycardia ($5.4 \pm 0.7804\uparrow$), HT + angina pectoris (1.9 ± 0.848), HT + myocardial infarction (1.4 ± 1.245) and HT + hyperlipidemic ($1.2 \pm 0.276\uparrow$) when compared to Only with HT (131.8 ± 1.639) patients group. The results of within the groups indicated after drugs were taken SGPT levels were increased for different medical conditions such as HT + angina pectoris ($39.8 \pm 1.681\uparrow$), HT + hyperlipidemic ($39.6 \pm 3.563\uparrow$), HT + myocardial infarction ($16.7 \pm 1.559\uparrow$), HT + infection ($10.5 \pm 0.519\uparrow$), HT + congestive heart failure ($7.2 \pm 0.474\uparrow$), HT + tachyarrhythmias ($6.1 \pm 1.0995\uparrow$), HT + hypertension ($5.8 \pm 0.2659\uparrow$), HT + inflammation ($4.2 \pm 0.018\uparrow$) and HT + bradycardia ($3.7 \pm 0.9609\uparrow$) and when compared to Only with HT (131.8 ± 1.639). An additional sight a quantity of SGPT levels indicated that the before drugs taken HT + hypertension (172.7 ± 5.520) were more when compared to sequential order such as HT + congestive heart failure (147.7 ± 3.538), HT + inflammation (143.2 ± 1.412), HT + infections (139.8 ± 2.444), HT + tachyarrhythmias (138.2 ± 1.480), HT + bradyarrhythmias (137.2 ± 0.8586), HT + angina pectoris (133.7 ± 2.487), HT + myocardial infarction (133.2 ± 2.884), HT + hyperlipidemic (133.0 ± 1.915) and Only with HT (131.8 ± 1.639). And also after drugs taken HT + hyperlipidemic (172.7 ± 5.528) were more when compared to chronological order such as HT + angina pectoris (170.9 ± 3.638), HT + myocardial infarction (147.8 ± 3.516) HT + infections (143.6 ± 1.438), HT + hypertension (138.9 ± 2.2229), HT + congestive heart failure (138.3 ± 1.483), HT + tachyarrhythmia (137.2 ± 0.8575), HT + inflammation (135.3 ± 1.939), HT + bradyarrhythmia (134.8 ± 0.9961) and Only with HT (133.1 ± 1.957).

Table 2. Analysis of SGPT by HT+ different associated diseases condition

S. No	HT associated diseases	Before Drugs Taken	After Drugs Taken
1	Only with HT	132±2	133.1 ±2*
2	Hyperlipidemic	133±2*a	172±6***
3	Hypertension	173±5.6***a	138.9±3***
4	Infections	139.8±2.5***a	144±2*
5	Inflammation	143±1.4***a	136±2**
6	Myocardial Infraction	133.2±2.89*a	148±4***
7	Congestive Heart Failure	147.7±3.6***a	139±1.5**
8	Tachyarrhythmia	138.2±1.5**a	137±0.9*
9	Bradyarrhythmias	137.2±0.89**a	134.8±1*
10	Angina Pectoris	133.7±2.5*a	170.9± 4***

The SGPT levels were clarified as Mean±SEM connected One Way ANOVA taken after by Dunnet t-test ($P<0.05$)*, ($P<0.001$)** and ($P<0.0001$)*** and 50 Numbers of HT patients were used.

Potassium: The study results of potassium levels were indicated in which showed HT & A patients after the drugs taken potassium levels for hypertension ($0.254 \pm 0.0148\downarrow$) and hyperlipidemic ($0.238 \pm 0.0398\downarrow$) were considerably decreased ($P<0.05$)*, ($P<0.001$)** & ($P<0.0001$)*** when compared to before drugs taken under HT & A patients potassium levels reduction order indicated that the only with HT ($0.300 \pm 0.0019\downarrow$), HT + bradycardia ($0.266 \pm 0.0102\downarrow$), HT + congestive heart failure ($0.246 \pm 0.0048\downarrow$), HT + angina pectoris ($0.242 \pm 0.0145\downarrow$), HT + tachyarrhythmia ($0.212 \pm 0.0005\downarrow$), HT +

inflammation ($0.170 \pm 0.0208\downarrow$), HT + myocardial infarction ($0.163 \pm 0.084\downarrow$) and HT + infection ($0.138 \pm 0.0434\downarrow$) were compared to before drugs taken patients group.

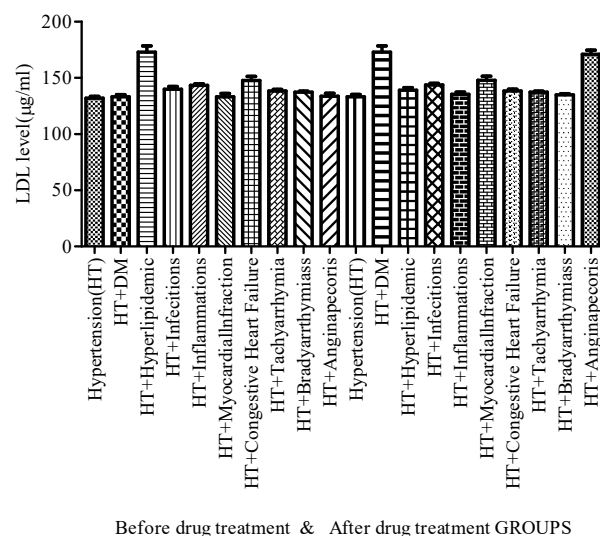


Figure 2. Analysis of SGPT by HT+ different Associated diseases condition

Within the group comparison of potassium levels before drugs were taken HT + hypertension ($0.544 \pm 0.02205\uparrow$), HT + hyperlipidemic ($0.478 \pm 0.03269\uparrow$), HT + angina pectoris ($0.436 \pm 0.06612\uparrow$), HT + tachyarrhythmia ($0.418 \pm 0.05076\uparrow$), HT + bradycardia ($0.416 \pm 0.04719\uparrow$), HT + myocardial infarction ($0.286 \pm 0.03537\uparrow$), HT + inflammation ($0.258 \pm 0.08216\uparrow$), HT + congestive heart failure ($0.216 \pm 0.09691\uparrow$), HT + infection ($0.184 \pm 0.07739\uparrow$) when compared to before drugs taken a group of only with HT patients. The subsequent drugs taken potassium levels HT associated diseases such as hypertension ($0.590 \pm 0.02543\uparrow$), hyperlipidemic ($0.540 \pm 0.03061\uparrow$), angina pectoris ($0.494 \pm 0.06169\uparrow$), HT + tachyarrhythmias ($0.506 \pm 0.05261\uparrow$), HT + bradycardia ($0.450 \pm 0.4871\uparrow$), HT + myocardial infarction ($0.423 \pm 0.03643\uparrow$), HT + inflammation ($0.388 \pm 0.02556\uparrow$), HT + infection ($0.346 \pm 0.02596\uparrow$), HT + congestive heart failure ($0.270 \pm 0.09921\uparrow$) were moderately increased ($P<0.05$)*, ($P<0.001$)** & ($P<0.0001$)*** when compared to after drugs taken group of only with HT patients.

Table 3. 6.29, Analysis of K⁺ by HT+ different associated diseases condition

HT associated diseases	Before Drugs Taken	After Drugs Taken
Only with HT	5.7 ±0.2	5.4±0.11*
Hyperlipidemic	6.2±0.1*a	5.9±0.1*
Hypertension	6.3±0.1*a	5.8±0.1**
Infections	5.9±0.1	5.8±0.1*
Inflammation	6±0.1	5.8±0.1*
Myocardial Infraction	6±0.1	5.8±0.1**
Congestive Heart Failure	5.9±0.1	5.6±0.1*
Tachyarrhythmia	6.1±0.06*a	5.9±0.06**
Bradyarrhythmias	6.1±0.07**a	5.9±0.06**
Angina Pectoris	6.2 ±0.05**a	5.9± 0.05***

Calcium: The variable levels of Calcium results indicated Tab. No: 6.30 & Fig. No:6.149 later than the drugs taken HT + bradycardia ($10.62 \pm 0.0265\uparrow$) and HT + infection ($10.62 \pm 0.0025\uparrow$) patients levels of calcium were drastically increased ($P<0.05$)*, ($P<0.001$)** & ($P<0.0001$)*** when compared to before drugs taken HT & A rising order of calcium levels HT+ hyperlipidemic ($10.57 \pm 0.0831\uparrow$), HT+ tachyarrhythmia ($10.31 \pm 0.0503\uparrow$), HT+ angina pectoris ($10.19 \pm 0.4101\uparrow$), HT+ congestive heart failure ($10.15 \pm 0.0058\uparrow$), HT+ hypertension ($10.11 \pm 0.0387\uparrow$), HT+ inflammation ($9.8 \pm 0.0137\uparrow$) and HT+ myocardial infractions ($9.68 \pm 0.0177\uparrow$). Comparatively HT

+ bradycardia ($10.62 \pm 0.0265\uparrow$) patients calcium levels were equipotent to HT + infection ($10.62 \pm 0.0025\uparrow$) patients and another view HT + inflammation ($9.8 \pm 0.0137\uparrow$) patients calcium levels were identical to HT + myocardial infarctions ($9.68 \pm 0.0177\uparrow$). Before the drugs taken groups calcium levels indicated that the HT + inflammation ($0.58 \pm 0.0162\downarrow$), HT + congestive heart failure ($0.5 \pm 0.0737\uparrow$), HT + hypertension ($0.45 \pm 0.02663\uparrow$), HT + hyperlipidemic ($0.33 \pm 0.0557\uparrow$), HT + tachyarrhythmia ($0.25 \pm 0.047\uparrow$), HT + bradycardia ($0.13 \pm 0.0394\uparrow$), HT + myocardial infarctions ($0.22 \pm 0.363\uparrow$), HT + angina pectoris ($0.19 \pm 0.0281\uparrow$) and HT + infection ($0.13 \pm 0.0187\downarrow$) were increased ($P < 0.05$)*, ($P < 0.001$)** & ($P < 0.0001$)*** when compared to previous to the drugs taken group of only with HT. The results of behind the drugs taken groups calcium levels exposed that the HT + hyperlipidemic ($1 \pm 0.0296\uparrow$), HT + bradycardia ($0.85 \pm 0.0089\uparrow$), HT + infection ($0.85 \pm 0.0408\uparrow$), HT + congestive heart failure ($0.75 \pm 0.0225\uparrow$), HT + hypertension ($0.66 \pm 0.008\uparrow$), HT + tachyarrhythmia ($0.66 \pm 0.0604\uparrow$), HT + inflammation ($0.48 \pm 0.0271\downarrow$) HT + angina pectoris ($0.48 \pm 0.0821\uparrow$) HT + myocardial infarctions ($0.0 \pm 0.0286\uparrow$), were increased ($P < 0.05$)*, ($P < 0.001$)** & ($P < 0.0001$)*** when compared to after the drugs taken group of only with HT.

Table 4. 6.30, Analysis of calcium by HT+ different associated diseases condition

HT associated diseases	Before Drugs Taken	After Drugs Taken
Only with HT	34.74 \pm 0.3737	44.64 \pm 0.3167***
Hyperlipidemic	35.07 \pm 0.4294*a	45.64 \pm 0.3463***
Hypertension	35.19 \pm 0.3474*a	45.30 \pm 0.3087***
Infections	34.87 \pm 0.3550	45.49 \pm 0.3575***
Inflammation	35.32 \pm 0.3575	45.12 \pm 0.3438***
Myocardial Infraction	34.96 \pm 0.3630	44.64 \pm 0.3453***
Congestive Heart Failure	35.24 \pm 0.3000*a	45.39 \pm 0.2942***
Tachyarrhythmia	34.99 \pm 0.3267	45.30 \pm 0.3771***
Bradyarrhythmias	34.87 \pm 0.33430	45.49 \pm 0.30780***
Angina Pectoris	34.93 \pm 0.3456	45.12 \pm 0.3988

The Calcium levels were shown Mean \pm SEM (N=50) assessed by Utilizing One Way ANOVA followed by Dunnet t-test ($P < 0.05$)*, ($P < 0.001$)** and ($P < 0.0001$).

Sodium: The study consequences of sodium levels were noted on Tab. No:6.32 & Fg. No:6.58, which have exposed HT & A patients after the drugs taken sodium levels for hypertension ($2.5 \pm 0.0601\downarrow$) and hyperlipidemic ($2.8 \pm 0.0156\downarrow$) were appreciably decreased ($P < 0.05$)*, ($P < 0.001$)** & ($P < 0.0001$)*** when compared to before drugs taken. HT & A patients' sodium levels decreased in order of after drugs taken results indicated that the only with HT + bradycardia ($2.4 \pm 0.0068\downarrow$), HT + congestive heart failure ($2.23 \pm 0.007\downarrow$), HT + angina pectoris ($3 \pm 0.192\downarrow$), HT + tachyarrhythmia ($2.5 \pm 0.002\downarrow$), HT + inflammation ($1.8 \pm 0.0032\downarrow$), HT + myocardial infarction ($2.1 \pm 0.062\downarrow$) and HT + infection ($1.2 \pm 0.0434\downarrow$) were compared to before drugs taken patients group but only with HT level increased ($1.6 \pm 0.0601\uparrow$). The sodium levels within the group before drugs taken results indicated HT + bradycardia ($11.2 \pm 0.192\uparrow$), HT + myocardial infarction ($10.9 \pm 0.2972\uparrow$), HT + hyperlipidemic ($9 \pm 0.0232\uparrow$), HT + inflammation ($8.4 \pm 0.2748\uparrow$), HT + angina pectoris ($8.7 \pm 1.949\uparrow$), HT + hypertension ($8 \pm 0.298\uparrow$), HT + infection ($7 \pm 0.7909\uparrow$), HT + tachyarrhythmia ($7.4 \pm 0.8439\uparrow$), HT + congestive heart failure ($3.53 \pm 0.9479\uparrow$) were reasonably increased ($P < 0.05$)*, ($P < 0.001$)** & ($P < 0.0001$)*** when compared to previous to drugs taken group of only with HT patients. Later to drugs taken groups sodium levels HT linked diseases such as HT + bradycardia ($7.2 \pm 0.2453\uparrow$), HT + myocardial infarction ($7.2 \pm 0.2953\uparrow$) HT + inflammation ($5 \pm 0.3317\uparrow$), HT + hyperlipidemic ($4.6 \pm 0.0525\uparrow$), HT + infection ($4.2 \pm 0.819\uparrow$), HT + angina pectoris ($4.1 \pm 0.963\uparrow$), HT + hypertension ($3.6 \pm 0.2356\uparrow$) and HT + tachyarrhythmia ($3.3 \pm 0.902\uparrow$), were extremely increased ($P < 0.05$)*, ($P < 0.001$)** & ($P < 0.0001$)*** compared to after drugs taken group of only with HT patients but HT + congestive heart failure patients sodium level increased ($0.3 \pm 1.015\downarrow$).

Table 5. 6.32, Analysis of Na²⁺ by HT+ different associated diseases condition

HT associated diseases	Before Drugs Taken	After Drugs Taken
Only with HT	151.8 \pm 0.5081	153.4 \pm 0.4480*
Hyperlipidemic	160.8 \pm 0.4849**a	158.0 \pm 0.5005*
Hypertension	159.5 \pm 0.2101**a	157.0 \pm 0.2124*
Infections	158.8 \pm 1.299**a	157.6 \pm 1.267*
Inflammation	160.2 \pm 0.7829**a	158.4 \pm 0.7*
Myocardial Infraction	162.7 \pm 0.8053***a	160.6 \pm 0.7433*
Congestive Heart Failure	155.33 \pm 1.456**a	153.1 \pm 1.463*
Tachyarrhythmia	159.2 \pm 1.352**a	156.7 \pm 1.350*
Bradyarrhythmias	163.0 \pm 0.7001*** a	160.6 \pm 0.6933*
Angina Pectoris	160.5 \pm 1.603**a	157.5 \pm 1.411*

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