PS202

### The Combination Trial of Combining Triditional Chinese Medicine of Tianma-Gouteng Decoction and L-Amlodipine Besylate in Patients With Essential Hypertension

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**Introduction:** This is a new kind of trial combining TCM and Western medicine.
**Objectives:** To investigate the treatment effect, advantages and safety of combining TCM of tianma-gouteng decoction and L-amlodipine besylate in patients with essential hypertension (EH).
**Methods:** 150 patients with EH were randomly divided into two groups: control group (n=75) were treated with L-amlodipine besylate 2.5mg qd; treatment group (n=75) were treated with the same dose of L-amlodipine besylate and plused TCM 150ml tid. The data were assessed at baseline and after treatment for 4 weeks.
**Results:** After treatment, the clinical symptoms of headache, dizziness, palpitation, insomnia etc. in the two groups were relieved and were earlier and more significant in treatment group ($P<0.05$). CBP levels were significantly reduced compared to baseline(all $P<0.01$) in two groups respectively, and the reduction amplitude was more significant in treatment group [(147.28±13.15)/(90.36±11.17) vs (138.33±10.67)/(83.25±9.32)mmHg,$P<0.05$]. The values of 24hSBP,24hDBP,dSBP,dDBP,nSBP,nSBP,dSBPL,dDBPL,nSBPL and nDBPL were declined obviously compared to baseline(all $P<0.01$) in every group. 24hSBP,dSBP,nSBP and dSBPL, nSBPL were declined significantly compared to those in treatment group than in control group after treatment[(137.09±12.71) vs (131.28±11.90),(139.07±13.12) vs (132.35±10.77,(131.50±12.61) vs (122.93±13.16) mmHg and (46.67±32.18)% vs (29.47±23.93)%,(62.21±31.35)% vs (43.19±32.11)%, all $P<0.05$]. However, 24hDBP,dDBP,nDBP and dDBPL, nDBPL were no significant difference between two groups after treatment[(83.26±10.07) vs (82.91±9.34,(85.50±13.72) vs (84.68±10.28) g,(79.61±12.57) vs (78.13±11.18) mmHg and (38.38±30.67)% vs (37.70±28.63)%,(46.80±31.75)% vs (46.19±30.35)%,all $P>0.05$)].The T/p ratio was no significant difference between two groups[(0.69±0.11)/(0.68±0.13) vs (0.70±0.13)/(0.68±0.32),$P>0.05$].No serious side effects were observed in two groups.
**Conclusion:** (1)The symptoms of EH can be relieved obviously by TCM or L-amlodipine besylate. (2) TCM can reduce 24hSBP,dSBP and nSBP and can not reduce 24hDBP,dDBP and nDBP. (3) There are mult-aspect advantages of symptomatic improvement,SBP dropping,lesser side effective that in the patients by the therapy of combining tianma gouteng decoction with l-amlodipine besylate.This is a new way to treat hypertension by combination therapy.
**Disclosure of Interest:** None Declared

PS203

### Usefulness of P Wave Analysis of the Electrocardiogram in Experimental Models of Chagas Disease in Mice

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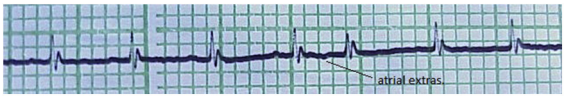
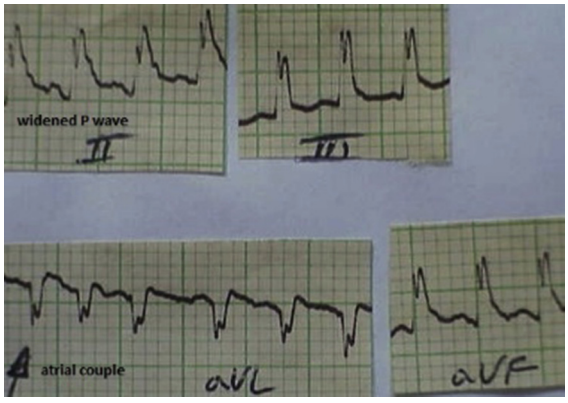
**Introduction:** The most important manifestation of Chagas disease in humans is the chronic myocarditis. As the disease spreads throughout the heart affecting myocytes and specialized conduction system, electrocardiographic changes will reflect this. In experimental models of Chagas disease in mice, the electrocardiography is a very important tool in this kind of studies.
**Objectives:** To determine the usefulness of P wave analysis of the electrocardiogram (ECG) in experimental models of Chagas disease in mice.
**Methods:** We analyze the ECG recording of 19 healthy mice (control group) and 158 diseased mice intraperitoneally infected with 105 Trypomastigotes of T. Cruzi H510C8C3 clon, partially medicated with benznidazol (50 mg/kg/day, 10 doses). In the diseased mice, the ECG was performed in the cronic period. The ECG was performed under deep anaesthesia with sodic penthobarbital (30 mg/Kg/ doses). The tracing was obtained at 50 or 100 mm/second rates, 1 mV (N) or 2mV (2N) in a single canal ECG machine using interference filter and battery alimentation to avoid electrical noise.

We analyze the ECG tracing in DI, DII, DIII, aVR, aVL and aVF leads, with special attention in heart rate, P wave, AV conduction, QRS complex and presence of arrhythmias. Fischer's exact test was used to the statistical analysis and a p value <0.05 was considered significant.
**Results:** Analyzing the ECG data from both groups (Table 1), the diseased group displayed significant alterations in P wave (duration and amplitude), AV conduction (prolonged PR interval), QRS complex (alteration of the ventricular electrical axis and QRS duration) with atrial arrhythmias in 7.6% ($p<0.05$).

| VARIABLES | CONTROL (n=19) | DISEADED (n=158) | P value |
|---|---|---|---|
| Average heart rate (bpm) ± SD | 550,89±65,33 | 582,43±119,20 | NS |
| Average P wave (msec.) ± SD | 10.92±5,2 | 26,48±9,10 | <0.05 |
| Average P wave (mV.) ± SD | 0.025±0.0125 | 0.2±0.05 | <0.05 |
| Abnormal QRS complex axis (n; %) | 2; 10.5 | 35; 22.1 | <0.05 |
| Average PR (msec.) ± SD | 34,37±4,41 | 44±7,2 | <0.05 |
| Average QRS (msec.) ± SD | 7,63±1,26 | 20±1,1 | <0.05 |
| Atrial arrhythmias (n; %) | 0 | 12; 7.6 | <0.05 |




**Conclusion:** The significant P wave morphology alterations together to the atrial arrhythmias founded in this study reflect the atrial damage during the chronic Chagas disease, which could be an important variable of study in these experimental models.
**Disclosure of Interest:** None Declared

PS204

### Losses of Long-Range Correlation in the Heart Rate Variability of Patients With Chagas' Disease

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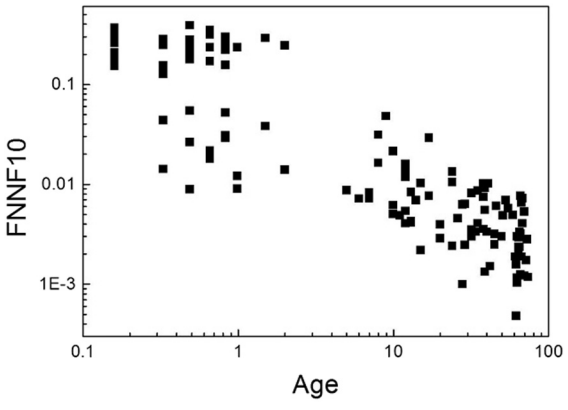
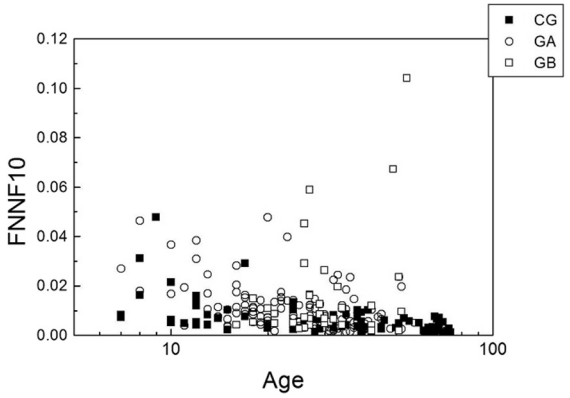
**Introduction:** Parasympathetic dysautonomia is an established feature of Chagas disease, but its early detection is still challenging. In a previous work we have developed the index FNNF10 based on the non-linear characteristics of the heart rate variability (HRV). We have tested it on about 500 subjects with different cardiac diseases and found that FNNF10 is sensitive to parasympathetic-sympathetic balance alterations. In the present work we show that Chagasic patients without clinical findings of disease have values of FNNF10 higher than healthy subjects. We also show that FNNF10 potentially depends on the individual age.
**Objectives:** To evaluate the performance of FNNF10, a non-linear HRV measure, for the identification of early cardiac alteration in Chagas' disease.
**Methods:** We studied 155 patients with Chagas' disease and compared them with 130 healthy individuals used as Control Group (CG). Chagasic patients were studied and classified into two groups: GA with normal ECG and Holter, and no symptoms of illness (n=128), and GB with abnormal ECG or Holter (n=27). Patients with known structural cardiac disease were not included in the study. Holter recordings were taken by using a DMS300–7 digital recorder. We then constructed RR interval time series and calculated the recently developed FNNF10. This index results from applying the false nearest neighbor method (FNN) to find the embedding dimension of a time series, and from considering the value of FNN at dimension 10.
**Results:** FNNF10 potentially decreases with the increasing of age in healthy subjects (Graph 1). Significant deviations from normality, through higher values of FNNF10, are observed in almost 10% of the GA (CG vs. GA $p<0.001$) and 37% of the GB Chagasic patients (CG vs. GA $p<0.001$), while $p>0.02$ between GA and GB (Graph 2).






**Conclusion:** FNNF10 has a decreasing power law behavior with age in healthy subjects between 0 and 80 years old. Significant deviations from normal values occur even in asymptomatic Chagasic patients, which increase in patients with cardiac electrical disorders. High values of FNNF10 indicate a loss of long-range correlation in the heart rate variability of patients with Chagas' disease.
**Disclosure of Interest:** None Declared

**PS205**

### Health System Barriers to and Facilitators of Adherence to Medications for the Secondary Prevention of Cardiovascular Disease: A Systematic Review

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**Introduction:** Secondary prevention is crucial and cost-effective in the response to the cardiovascular disease(CVD) epidemic,but uptake is suboptimal.Better understanding of obstacles and facilitators to adherence at multiple health system levels may inform health policy.
**Objectives:** To conduct a systematic review in order to identify health system barriers or facilitators to the adherence to evidence-supported drugs for the secondary prevention of CVD.
**Methods:** Included studies reported effects of health system level factors on adherence to drugs for secondary prevention of CVD(coronary artery or cerebrovascular disease) and considered at least one of:beta-blockers,statins,angiotensin-renin system blockers and aspirin.Relevant databases were searched until 1 October 2015.Full texts of potentially suitable articles were screened by two independent reviewers.Extracted data included study design,setting,methods and outcomes,health system domains,health system barriers or facilitators.Studies were categorized by health system domain and setting.(PROSPERO 2015:CRD42015019079).
**Results:** Of 2431 screened articles,23 studies were included(11 trials,11 cohorts, and 1 case-control) with 126358 individuals(smallest n=30, largest n=63301).Other than 3 studies including upper middle-income countries and 1 including a low middle-income country,19(83%) were in high-income countries(10 in the USA).Studies concerned cerebrovascular disease(n=7),CVD(n=3) and coronary heart disease(stable CHD,myocardial infarction and CABG)(n=13).Only one study considered both persistence and adherence. Studies investigated governance and delivery(n=18,including 3 trials of fixed dose combination therapy),intellectual resources(n=1),human resources(n=1) and health system financing(n=3).There were three findings.First,high-quality evidence about health system influences on adherence for secondary CVD prevention is lacking,especially for low-income settings.Second,improved health financing mechanisms and fixed-dose combination therapy are supported to some extent as strategies to improve adherence.Third, patient counselling can improve adherence.
**Conclusion:** Context-specific, generalisable research about health system determinants of drug adherence is urgently needed to inform policy in secondary prevention of CVD. Standardised definitions and approaches to adherence are required in research and practice.
**Disclosure of Interest:** None Declared

**PS206**

### The Impact of a Dedicated Heart Failure Clinic in Guyana on Cardiovascular Outcomes

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**Introduction:** Longer life expectancy in low-income countries has led to an increase in prevalence of chronic diseases worldwide, with congestive heart failure (HF) making up a significant portion of this disease burden. Guyana is a small South American nation that lacks the ability to perform organized clinical follow-up and guideline based care and illustrates the growing need for structured cardiovascular care in low-income countries.
**Objectives:** To demonstrate that implementation of a dedicated HF clinic in Guyana managed by trained nursing staff is feasible and can improve clinical outcomes and adherence to guideline-directed medical therapy (GDMT).
**Methods:** This is a prospective observational cohort study of a dedicated HF clinic established at the Georgetown Public Hospital, Guyana in November 2014 in partnership with the Guyana Ministry of Health. Patients referred to the HF clinic between November 2014 to May 2015 were included with a minimum follow-up of 6 months, concluding November 2015. A HF clinical management protocol was designed according to Canadian Cardiovascular Society (CCS) HF Guidelines and Guyanese nurses were trained by LCIA staff with both local site visits and remote support from regular teleconferencing sessions. Outcomes of interest were etiology of HF, proportion of patients treated with GDMT at baseline and follow-up, hospitalization for cardiac cause, change in New York Heart Association score, loss to follow-up, and all-cause mortality.
**Results:** A total of 49 patients referred to the HF clinic were included in clinical outcomes analysis. Mean ejection fraction was 34% (±14.5 SD); the most common cause of cardiomyopathy was ischemic (45%). The follow-up period will conclude November 2015, however interim analysis results from October 2015 showed that the average number of clinic follow-ups was is 5 (±4 SD). Twelve patients returned to hospital for a cardiac cause, 12 were lost to follow-up and 3 died. Twenty-eight of the remaining patients (82%) showed improvement in NYHA functional class, and proportion of patients treated according to CCS HF guidelines increased from 59% at time of recruitment to 100%.
**Conclusion:** A dedicated HF clinic in Guyana is feasible and improves functional status in HF patients. With similar structured management protocols delivered by trained nurses, more patients in low-income countries may be able to benefit from guideline-based HF care.
**Disclosure of Interest:** None Declared

**PS208**

### Improved Blood Pressure Associated With Mpower Heart Intervention: A Multi-Faceted Intervention for Hypertension in India

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**Introduction:** Hypertension is a major risk factor for cardiovascular diseases. Though amenable to simple interventions, enough attention to early detection and management for hypertension is yet to be integrated at primary care in most developing nations.
**Objectives:** This research work aimed to develop an intervention for hypertension and evaluate its impact on systolic blood pressure (SBP) in a pilot in India.
**Methods:** The development of a multi-faceted intervention (nurse-facilitated, smartphone-based clinical decision support enabled) and piloting was carried out in five government Community Health Centres (CHCs) in the Solan district, a north India state of Himachal Pradesh. Using a pre-post evaluation design, we followed the participants identified with hypertension from December 2012 to August 2014. Generalized Estimating Equations models with exchangeable correlation structure were used to quantify the changes in SBP over time.
**Results:** A total of 6016 subjects with hypertension were enrolled of which 2863 (48%) subjects were aware of their hypertension status while the remaining subjects 3152 (52%) were newly detected. For the overall group, the mean SBP at baseline was 146.1 mmHg (CI: 145.7, 146.5). The newly diagnosed subjects had higher SBP at baseline (149.1 mmHg, CI: 148.6, 149.7) as compared to subjects who were aware of their hypertension status (143.0 mmHg, CI: 142.4, 143.6). During intervention, major reduction in SBP (-12.9 mmHg, CI:-13.2,-12.7) occurred during the initial three month of enrolment which was sustained even at 18th month. The reduction in mean SBP level was higher among newly detected subjects (-17.7mmHg; CI:-18.8,-16.7) than known subjects (-12.7mmHg; CI:-13.8,-11.5). The reductions observed in SBP levels in both the groups at all the time points, in comparison with their baseline estimates, were significant even after adjusting for age and gender.
**Conclusion:** This work demonstrated that implementation of a multi-faceted intervention for hypertension in primary care was associated with improvements in blood pressure reduction. However, absence of a control group was a limitation to our study. Further, this study extends reports from other health care delivery systems in the west which have also observed significant improvement in hypertension control.
**Disclosure of Interest:** None Declared

**PS209**

### Prevalence of Rheumatic Heart Disease in Urban Versus Rural Schools Using Who Versus WHF Echo Criteria

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**Introduction:** Rheumatic fever and Rheumatic Heart disease (RF/RHD) appears to be on the rise in many developing countries. The underlying reasons for resurgence of Rheumatic