สมาคมความดันโลหิตสูงแห่งประเทศไทย ประชุมวิชาการประจำปี 2563 ครั้งที่ 18

"Heart & Mind in Hypertension Management"

วันศุกร์ที่ 14 กุมภาพันธ์ 2563 ณ ห้องอโนมา 2-3 ชั้น 3 โรงแรมอโนมา ถ.ราชดำเนิน กรุงเทพฯ
กำหนดการประชุมวิชาการประจำปี ครั้งที่ 18 สมาคมความดันโลหิตสูงแห่งประเทศไทย
วันศุกร์ที่ 14 กุมภาพันธ์ 2563 ณ ห้องโฉนด 2-3 ชั้น 3 โรงแรมอโนมา กรุงเทพฯ

“Heart & Mind in Hypertension Management”

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<th>07.00 - 07.30 น.</th>
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| 07.30 - 08.15 น. | Breakfast Symposium By บริษัท ดีเคเอสเอช (ประเทศไทย) จำกัด  
Cilnidipine – The 4th Generation of CCB: A New Kid for Organ Protection  
**Moderator:** ศ.นพ.อภิชาต สุคนธสรรพ์  
อ.นพ.-valu โอภาศเจริญสุข |
| 08.20 - 08.30 น. | เปิดการประชุม  
ศ.นพ.อภิชาต สุคนธสรรพ์  นายกสมาคมความดันโลหิตสูงแห่งประเทศไทย |
| 08.30 - 09.00 น. | How to Improve Blood Pressure Control in Thai Hypertensive Population?  
ผศ.นพ.สมเกียรติ แสงวัฒนาโรจน์ |
| 09.00 - 10.00 น. | HEART & MIND: What Have We Learned from SPRINT-HEART & SPRINT-MIND?  
ผศ.นพ.ทวีชัย ศรีสังข์  
ผศ.นพ.ธนบุรี ละหาคุณ |
| 10.00 - 10.45 น. | Coffee break พร้อมประชุมธุรการ |
| 10.45 - 11.30 น. | Lunch Symposium (1) By บริษัท เบอริงเกอร์ อิน겔ฮอล์ต (ไทย) จำกัด  
Contemporary Management of T2DM with CVD and CKD: Implications from The Evidences  
**Moderator:** ผศ.นพ.สุรพันธ์ สิทธิสุข  
ผศ.นพ.ธาดา คุณาวิศรุต |
| 11.30 - 12.15 น. | Lunch Symposium (2) By บริษัท เซอร์เวียร์ (ประเทศไทย) จำกัด  
Achieving The New Blood Pressure Target: From Control to Protection (moderator & speaker)  
น.อ. (พิเศษ) น.พ.กฤษฎา ศาสตรวาหา |
| 12.15 - 13.00 น. | Lunch |
| 13.00 - 13.40 น. | Free Paper Presentation  
**Moderator:** ผศ.นพ.มะริยา ศิลากุล |
| 14.10 - 14.40 น. | A New Hope with Endothelin Receptor Antagonism – Results of SONAR  
ผศ.นพ.กฤษฎา ศาสตรวาหา |
| 15.10 - 15.20 น. | Coffee Break หลังปิดประชุม |
How to improve Blood Pressure Control in Thai Hypertensive Population?

(Lesson from TeleHealth-Assisted Interventions on Home Blood Pressure Monitoring: THAI-HPBM)

Somkiat Sangwatanaroj, MD.
Division of Cardiovascular Medicine, Faculty of Medicine, Chulalongkorn University.

Stanford study of 30-year-olds shows that people with diabetes are less likely to achieve blood pressure control than those without diabetes. In order for patients to manage their blood pressure effectively, they need to be educated on how to monitor and control their blood pressure. In this study, the researchers found that people with diabetes were less likely to achieve blood pressure control than those without diabetes. The conclusion is that people with diabetes need to be educated on how to monitor and control their blood pressure effectively.
Hypertension (HT) was a top-10 risk contributing to premature death and Disability Adjusted Life Year which increase 24.5% from 2007 to 2017. This may be due to poor effective coverage of HT control (~30%) in Thailand. There were at least 13 million HT patients in 2014 but 5.8 million (45%) were undiagnosed and 2.5 million were uncontrolled despite on medical treatment.

We screened and diagnosed HT in community during Jun 2017-Mar 2018 (n = 1230) and found that 17.7% were high BP and Home Blood Pressure Telemonitoring (HBPT) was done in 58.7% and 47.7% were white coat HT.

Over 2 million Thai workers were estimated to be undiagnosed HT, therefore we conducted the Social Security Office-Health Delivery project (SSO-HD): a 3-month health delivery program to improve the screening and diagnosis of HT in 4 workplaces (n=301) and found that the prevalence of unaware-undiagnosed decreased from 66.8% to 23% and improved the HT controlled rate from 17.8% to 30.3% and 3 severe HT workers were diagnosed and immediate management. One of the intervention that helped to improve HT control in the cohort is digital technology: every blood pressure (BP) measurement data was real-time sent from devices via smart-phone to iCloud (HBPT).

Recent meta-analysis on 11 randomized controlled trials (RCTs) shown that HBPT could decrease BP 4.9/2.3 mmHg. Our multicenter RCT of HBPT (n = 171 Thai HT patients) revealed that HBPT could decrease BP 8.5/4.4 mmHg at 400-day follow up.

We developed a HBPT device with timer which can do the same as ABPM in the much lower cost and more comfortable use. So we can real-time monitoring BP at anywhere, anytime with wireless and tubeless device in 24/7. This ABPT device may decrease the hospitalization of ER visit of uncontrolled stable HT, detect more 24-hr atrial fibrillation new case and sleep-related problems etc.

Tema-base approach, social determinant of health, decision-making support and polypill may be effectively improve HT control in Thai population.

Key words: Home blood pressure telemonitoring (HBPT), hypertension control, THAI-HBPM.
Fine particulate matter (PM$_{2.5}$ or particle size $\leq$ 2.5 µm) is mainly emitted from combustion of fossil fuels and biomass, and from industrial processes. Because of its size, penetration into the terminal airways and sometimes systemic circulation is the hallmark and various toxic substances can directly traverse into the respiratory tracts and other vital organs. Local and systemic injuries are resulted from oxidative stress, direct disturbance of innate and adaptive immunity, interference of epigenetic regulation of physiology and susceptibility, and intrusion of genetic regulation of inflammation.$^1$

In a prospective study from Taiwan in 134,978 adults between 2001 and 2014, decrement of PM$_{2.5}$ of 5 µg/m$^3$ was associated with lower 16% incident HT (HR 0.84; 95% CI, 0.82-0.86).$^2$ The same effect was also noted in 39,259 participants from China, exposure to PM$_1$ was associated with an increase of HT (OR 1.043, 95% CI, 1.033-1.053) and also for SBP, DBP, MAP and PP.$^3$ Potential mechanisms of linkage between PM$_{2.5}$ and HT include

1. Enhancing endothelial pro-oxidant and pro-inflammatory effects$^4$
2. Increased ACE protein with decrease ACE gene methylation$^5$
3. Dysfunction of the renal dopamine D1 receptor$^6$
4. Direct inhibitory action on vascular endothelial barrier function.$^7$

According to Thailand Air Quality Guidelines, 24-hour concentration of PM$_{2.5}$ at 50 µg/m$^3$ is considered a threshold for public warning. However, recent epidemiologic data from 499 cities worldwide, revealed that daily all-cause mortality was increased at earlier points than this threshold.$^8$ Every increment of PM$_{2.5}$ for 10 µg/m$^3$ was associated with increases of 0.68% mortality. Lowering the warning threshold for protection of those at risk, to WHO recommendation at 37.5 µg/m$^3$ (Interim target-3) and further to 25 µg/m$^3$ (Air Quality Guideline) should be warranted.$^9$ During the high-concentration period, outdoor activities should be avoided especially in vulnerable people. Proper personal protection equipment and indoor air purification systems must be provided by the responsible authorities. Effective measures such as strengthening emission standard for vehicles, post-combustion control for industrial processes, and better management of agricultural crop residues should be implemented for sustainable clean air to every living creature.$^{10}$
References


Free Paper Presentation
Risk stratification of hypertensive subjects using Thai cardiovascular risk scoring system.

Weranuj Roubsanthisuk, Chavalit Chotruangnapa, Sirisawat Wanthong, Piyawan Thongdang, Wilaiporn Hancharoenkul, and Peera Buranakitjaroen.

Division of Hypertension, Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University

Background: Risk stratification in hypertensive patients is recommended to guide appropriate treatment. Previous studies have shown that the methods recommended elsewhere may overestimate the risk in Thai population. Thai cardiovascular (CV) risk scoring system has been introduced in 2015 to estimate 10-year risk of both fatal and non-fatal myocardial infarction (MI) and stroke in Thai population. Information regarding CV risk in Thai hypertensive population using this scoring system is not available. In addition, whether we should reassess CV risk of the patients after the treatment is not clearly known.

Objective: This study was conducted to obtain Thai CV risk score of subjects in hypertension (HT) clinic of Siriraj Hospital and also to learn the risk changing pattern after the treatment. Methods: Subjects in HT clinic of Siriraj Hospital with complete information for risk assessment were included. Thai CV risk scoring system was used to assess CV risk of each subject based on their clinical information in 2019 and at their initial diagnosis of HT.

Result: There were 616 hypertensive subjects enrolled in this study. Mean age of the subjects in 2019 was 60.0 ± 15.3 years. Sixty three percent were female. Significant comorbidities including diabetes and dyslipidemia were 35.4 and 78.9%, respectively. Only 2.9% were current smoker. Thai CV risk score of the subjects was categorized as shown in the table.

<table>
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<th>Time at assessment</th>
<th>Risk categories</th>
<th>Average Thai CV risk score</th>
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<tr>
<td></td>
<td>&lt;10%</td>
<td>10 - &lt;20%</td>
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<tr>
<td>At initial diagnosis</td>
<td>61%</td>
<td>22.4%</td>
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<tr>
<td>In 2019</td>
<td>48%</td>
<td>28.6%</td>
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Male and diabetic subjects had significantly higher risk score than female and their non-diabetic counterparts. Mean duration of follow-up was 12.9 ± 7.1 years. Aging and the increasing percentage of subjects with diabetes had worsen the risk even with lower blood pressure and better lipid profile after the treatment. The changing pattern of Thai CV risk can be classified into 3 patterns. First: CV risk increase (from 8.3 ± 6.2 to 15.5 ± 8.9%), 52.3% of subjects were in this subgroup. Second: CV risk
decrease (from 13.1 ± 11.7 to 7.7 ± 7.1%), 31.2% of subjects were in this subgroup. Third: no change in CV risk (stayed at 11.0 ± 11.9%). The increase in CV risk in the first group was mainly attributable to the greater increase in the newly diagnosed cases with diabetes as compared with cases in the other two groups.

**Conclusion:** Approximately half of hypertensive patients treated at Siriraj Hospital had Thai CV risk score higher than 10%. The risk score worsened in half of the cases and improved in one-third during long-term follow-up. Therefore, CV risk reassessment should be performed at interval after the initiation of treatment. Correlation of Thai CV risk score with CV events in large Thai population is needed.
Evaluation of Hypertension Treatment by using Blood Pressure Goal for the community hospitals, as a real-life. (Second part of Hypertension Registry at Amphur Lumsomthi Project*)

Wilai Puavilai, MD; Santi Lapbenjakul, MD; Kasem Phiadsoongnern; Saowalak Hunnangkul; Gumrai Phiadsoongnern; Katesooda Gasornsookone, RN; Oratai Hoondee, RN; and Boonyaporn Premprasert, RN**1: Cardiologist, Rajavithi Hospital; 2: Former Director, Lumsomthi Hospital; 3: Chief, health-care personnel of Amphur Lumsomthi (AL); 4: Statistician, Faculty of Medicine, Siriraj Hospital, Mahidol Univ.; 5: health-care personnel, AL; 6: Register nurse, Lumsomthi Hospital; 7: Former register nurse, Rajavithi Hospital; ** passed away.
*Granted by Thai Hypertension Society

Background: Hypertension (HT) has been treated as a nation-wide from the community to the university hospitals but the blood pressure (BP) control has been only less than 30 percents from the Public Health report.

Objective: Use BP goal level recommendation from 2019 Thai Guidelines on The Treatment of Hypertension as an indicator for BP control in treatment of HT.

Method: The authors and colleges examined the medical records of treated hypertensive patients (pts) as OPD cases who were registered under Hypertension Registry of Umphur Lumsomthi since 2012 up to 2018 with 461 records from 872 new hypertensive pts registered and only 179 records from 794 old hypertensive pts registered (due to miscommunication), total of 721 records of the pts who followed up at least more than 6 months at their local health care hospitals. The last BP values were documented in their Health care files which recorded earlier in September to November 2019. Their BP levels were classified by using BP goal as 2019 Thai Guidelines recommendation, in general pts aged 18-65 years (y) BP goal levels were 120-130/70-79 mmHg., and 130-139/70-79 mmHg for aged 65 y or over; comparing to original BP goal levels following JNC 7, which were less than 140/90 mmHg for aged 18 to less than 80 y and less than 150/90 in age of 80 y or over.

Result: The documented BP values of 721 pts aging from 34 to over 90 y old, both men and women living in Umphur Lumsomthi, working in the field in majority. There were 14.6 % (105 pts) having BP levels in goal, according to Thai Guidelines; 45.6% (329 pts) BP levels being high not in control, and 39.8% (287 pts) BP level being lower than the goal. In contrast when using JNC 7; 2015 Thai Guidelines, there were 83.5% (602 pts) having BP level in goal and only 16.5% (119 pts) having high BP out of control. Amlodipine (5 miligram) has been used as the first line drug at Lumsonthi Hospital and local Health Community Hospitals since 2012 which helped in controlling high BP.

Conclusion: To use BP goal level recommendation from 2019 Thai Guidelines as an indicator for BP control in treatment of HT giving less advantage significantly than using JNC 7; 2015 Thai HT Guidelines because of too narrow normal ranges of BP of both systolic and diastolic BP, especially diastolic BP tends to low in old age due to the degenerative change of the aorta. Modern antihypertensive medicines are vasodilator (except non-selected beta-blockers) so they reduce both systolic and diastolic BP and causing more diastolic BP reduction until lower than 70 mmHg and systolic BP still in the range. If the BP group which are lower than the goal level, being brought to add to BP group in goal level, will make BP in goal level group bigger up to 54.4%. The hypertensive pts in Hypertension Registry Project have BP level in goal more than from other report possible from good medicine, the physician informs them the diagnosis of hypertension even asymptomatic, health care personnel teach them about life-style modification and they accept.
รายนามคณะกรรมการบริหารสมาคมความดันโลหิตสูงแห่งประเทศไทย

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<td>กรรมการกลาง</td>
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บริษัทผลิตภัณฑ์ทางการแพทย์ที่ให้การสนับสนุนการประชุมวิชาการประจำปี 2563 ครั้งที่ 18

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