EPOSTER'S SECTION

PRIMARY CARE/FAMILY MEDICINE

HYPERTENSION AND ANTIHYPERTENSIVE THERAPY IMPAIR RESPIRATORY FUNCTION

Valentyna Dzhuryak, Larysa Sydorchuk, Kseniia Voroniuk, Ruslan Sydorchuk, Oksana Petrynych, Tetyana Kazantseva, Alina Sokolenko, Yulia Yarynych, Oksana Kushnir. Family Medicine Department, Bukovinian State Medical University, Chernivtsi, UKRAINE

Objective: Tight relationship between respiratory and vascular system appear obvious and several studies showed an association between lung function and hypertension. Furthermore, antihypertensive treatment itself might have an effect on lung function. Thus, the aim of this study was to determine association of hypertension and its treatment with respiratory function.

Design and method: In order to evaluate the respiratory system functional state in hypertensive patients we studied 107 patients (mean $49,5\pm2,7$ years old) with mild (1st group), moderate (2nd group) essential hypertension (EH) and neurocirculatory hypertensive asthenia (3d group), for control we observed 30 healthy subjects (4th group). Furthermore, stratification of treatment non-compliant and compliant patients was made to observe the possible impact of antihypertensive treatment. All patients had no chronic respiratory disease in anamnesis and were randomized dependently from the blood pressure levels. Parameters of the respiratory system function were examined by computer spirography.

Results: Such predictive and active parameters of computer spirography as Maximum Voluntary Ventilation (MVV), Forced Vital Capacity (FVC), Forced Expiratory Volume after 1s (FEV1), FEV1 as % of Inspiratory Vital Capacity (FEV1%VCIN), FEV1 as % of FVC (FEV1E), and Peak Inspiratory Flow (PIF) did not significantly differ between 1st, 3d and 4th observed groups. But in the 1st and a little bit less in the 3d groups data of active parameters mentioned above were insignificantly lower (p>0.05) compared to healthy individuals. In the 2nd group patients MVV, FEV1%VCIN, FEV1e were uncertainly lower (p>0.05) than in the 1st and 3d groups, but were still border-normal with tendency to forming combined respiratory and heart failure. Antihypertensive treatment was associated with a deterioration in FEV1 by -150.3±12.78 ml (p = 0.01) and in FVC by -190.2±20.05 ml (p<0.01). With both high blood pressure and antihypertensive medication as individual variables in one regression model, only medication decreased FEV1 and FVC statistically significantly (p<0.01).

Conclusions: Thus, a tendency for aggravation of the active parameters of respiratory function in patients with arterial hypertension is dependent on the blood pressure levels and use of antihypertensive medications.

SAFETY, FEASIBILITY, AND ACCEPTABILITY OF TELEMEDICINE FOR HYPERTENSION IN PRIMARY CARE: A PROOF-OF-CONCEPT AND PILOT RANDOMIZED CONTROLLED TRIAL (SATE-HT)

Eric Kam-Pui Lee¹, Shuqi Wang¹, Maria Leung², Shuk-Yun Leung², Jinghao Han², Will Leung³, Elsie Hui^{1,2}, Anastasia Mihailidou⁴, Kelvin Kam-Fai Tsoi¹, Martin Chi-Sang Wong¹, Samuel Wong¹. ¹Jockey Club School of Public Health and Primary Care, the Chinese University of Hong Kong, HONG KONG, ²General Outpatient Clinics, New Territory West Cluster, Hospital Authority, Hong Kong, HONG KONG, ³Cluster Services Division, Hospital Authority Head Office, Hong Kong, HONG KONG, ⁴Department of Cardiology and Kolling Institute, Royal North Shore Hospital, and Macquarie University, Sydney, AUSTRA-LIA

Objective: Hypertension (HT) continues to be a leading cause of cardiovascular death and an enormous burden on the healthcare system. Although telemedicine may provide improved blood pressure (BP) monitoring and control, it remains unclear whether it could replace face-to-face consultations in patients with optimal BP control. We hypothesized that an automatic drug refill coupled with a telemedicine system tailored to patients with optimal BP would lead to non-inferior BP control

Design and method: In this pilot, multicenter, randomized control trial (RCT), participants receiving anti-HT medications were randomly assigned (1:1) to either the telemedicine or usual care group. Patients in the telemedicine group

measured and transmitted their home BP readings to the clinic. The medications were refilled without consultation when optimal control (BP <135/85 mmHg) was confirmed. The primary outcome of this trial was the feasibility of using the telemedicine app. Office and ambulatory BP readings were compared between the two groups at the study endpoint. Acceptability was assessed through interviews with the telemedicine study participants.

Results: Overall, 49 participants were recruited in 6 months and retention rate was 98%. Participants from both groups had similar BP control (daytime systolic BP: 128.2 versus 126.9 mmHg [telemedicine vs. usual care], p = 0.41) and no adverse events. Participants in the telemedicine group had fewer general outpatient clinic attendances (0.8 vs. 2, p<0.001). Interviewees reported that the system was convenient, timesaving, cost saving, and educational.

Conclusions: The system could be safely used. However, the results must be verified in an adequately powered RCT.

ASSOCIATION BETWEEN A HISTORY OF CHRONIC DISEASES AND AMBULANCE USE AT THE ONSET AMONG FIRST-EVER STROKE PATIENTS. THE SHIGA STROKE AND HEART ATTACK REGISTRY STUDY

Maiko Kiyohara¹, Naomi Miyamatsu¹, Akiko Harada², Naoyuki Takashima^{2,3}, Sachiko Tanaka-Mizuno^{2,4}, Atsushi Tsuji⁵, Makoto Urushitani⁶, Yoshihisa Nakagawa⁷, Katsuyuki Miura^{2,8}, Kazuhiko Nozaki^{5,9}, ¹Department of Clinical Nursing, Shiga University of Medical Science, Otsu, JAPAN, ²NCD Epidemiology Research Center, Shiga University of Medical Science, Otsu, JAPAN, ³Department of Epidemiology for Community Health and Medicine, Kyoto Prefectural University of Medicine, Kyoto, JAPAN, ⁴Department of Digital Health and Epidemiology, Graduate School of Medicine, Kyoto University, Kyoto, JAPAN, ⁵Department of Neurosurgery, Shiga University of Medical Science, Otsu, JAPAN, ⁶Department of Neurology, Shiga University of Medical Science, Otsu, JAPAN, ⁷Department of Cardiovascular Medicine, Shiga University of Medical Science, Otsu, JAPAN, ⁸Department of Public Health, Shiga University of Medical Science, Otsu, JAPAN, ⁸Department of Public Health, Shiga University of Medical Science, Isu, JAPAN, ⁸National Hospital Organization Higashi-ohmi General Medical Center, Higashi-ohmi, JAPAN

Objective: It is essential to immediately call an ambulance and visit the medical institution specializing stroke. This study aimed to examine the differences in ambulance utilization at the onset of stroke, depending on the pre-stroke history of hypertension, diabetes, dyslipidemia, and atrial fibrillation.

Design and method: First-ever stroke patients over 20 years old enrolled in part of the Shiga Stroke and Heart Attack Registry, the Shiga Stroke Registry from January 1 to December 31, 2011, were analyzed. A logistic regression analysis was performed using the presence or absence of a history of each disease (hypertension, diabetes, dyslipidemia, atrial fibrillation), the independent variable (with the no history group as the reference group), and ambulance use at the onset of stroke as the dependent variable, and odds ratios (ORs) and 95% confidence intervals (95%Cis) for ambulance use in the no history group as the reference group was calculated.

Results: Of the 2054 first-ever stroke patients analyzed, 1212 (59.0%) used an ambulance. The prevalence of each disease (percentage of patients who used an ambulance according to whether they had the disease or not, %) was 45.5% for hypertension (56.3%, 61.3%), diabetes 14.0% (46.7%, 61.0%), dyslipidemia 12.5% (51.0%, 60.2%), and atrial fibrillation 7.3% (68.5%, 58.3%). The multivariate adjusted odds ratios and 95% confidence intervals for ambulance use at the onset of stroke for each disease were hypertension (ORs and 95% CI: 0.91, 0.73-1.12), diabetes (0.61, 0.45-0.81), and dyslipidemia. (0.90, 0.66-1.21) and atrial fibrillation (1.35, 0.89-2.04).

Conclusions: From this regional stroke registry survey, it was not observed that patients with a history of hypertension, diabetes, dyslipidemia, and atrial fibrillation tend to use an ambulance at the onset of a stroke compared with those without it. Our study indicated that patient education regarding appropriate reaction/ response at the stroke onset might not be efficient among patients with chronic diseases, including hypertension. In addition to the information for primary disease control, information on the importance of requesting an ambulance at the onset of a stroke should be provided.