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Posters

30 YEARS OF EXCELLENCE IN MEDICAL PUBLISHING

Mammographic Breast Density: Its role in tumor size assessment with imaging techniques

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Aim: To study the visual and automatic measurement of mammographic breast density (MBD) and its implications in tumor size assessment using distinct imaging techniques.

Methods: Study of the visual and automatic measurement of mammographic breast density according to the breast imaging data system (BI-RADS) in 212 patients with invasive unifocal breast cancer, excluding microinvasive lesions, who did not receive neoadjuvant chemotherapy. Tumor size assessment was compared using a linear regression according pathologic size with mammographic, US and MR size. The influence of MBD in each technique of pathologic size was seen by Bland-Altman plot.

Results: Patient's mean age was 55,7±9.9 year-old. The mean size of the lesion stablished by mammography was 16.8± 10.4 (4 -70) mm, by US was 13.6±7.2 (5 – 55) mm and by MR 17.2 ±9.9 (5 – 66) mm. Mean pathologic size was 12.6 ±8.1 (0.3 – 55) mm. Automatic MBD mean was 25.2±16.78. BIRAD assessment with visual and automatic MBD measurements were correlated with a tendency of tumor size overestimation with visual method. Linear regression of tumor size according image techniques with pathologic size showed an adjusted r-square of 27.3% for mammography 41.8% for US and 51.7% for MR. The best correlation was seen with MR although has a tendency to overestimate tumor size. Only tumor size assessed by mammography was influenced by MBD. With this technique, tumor size was best adjusted for those breasts with lower MBD.

Conclusion: Visual measurement overestimates MBD versus automatic measurement according BIRADS categories. MR is the more accurate breast imaging technique for assessing tumor size independently of the BMD which only influences in the mammographic tumor size estimation.

Biography

Maxim Izquierdo is an expert in the Breast Disease committee of Dexeus Universitary Hospital, Barcelona. He has presented his news in the Gallen International BCC; European Breast Cancer Conference; ASCO; and World Congress of Senologic .International Society, He is member of Sociedad Española Senologia Patologia Mamaria.

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Notes:

High-intensity interval training for Korean breast cancer survivors: A pilot study

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Background: Recently, growing evidences support that low and moderate intensity exercise can alleviate deleterious effects from breast cancer surgery. Many cancer survivors may participate in exercise program; however, there is a lack of evidence regarding the feasibility and relevance of high intensity interval training for breast cancer survivors. Therefore, this study was conducted to develop a high intensity interval training for breast cancer survivors in Korea and to confirm its feasibility. Methods: Survey was performed on the subjects who had participated in 2015 Pink Ribbon campaign. The survey focused on the overall thoughts regarding the exercise they participated and 84 out of 100 surveys were collected. The program was executed for 4 weeks on 13 subjects whose breast cancer treatment had been terminated for more than 2 years. The exercise program consisted of 10 min-foam roller stretch, 40 min-circuit exercise (3 sessions total, each consisted of 10 exercises and 15 sec resting), and 10 min-cool-down exercise for the total of 60 min twice a week. Results: To examine the feasibility of the high-intensity interval training program, the attendance rate was recorded and the subjects' heart rate during exercise was checked by Polar Team. The exercise was performed at the intensity of 69% of the maximal heart rate and the mean heart rate of 112 bpm of the subjects for 45 min. The physical activity level was increased from the beginning (2303.4 MET·min/week) to the end (3634.7 MET·min/week) of training program according to IPAQ survey, though no statistical difference was found. Furthermore, following the group interview, overall positive responses were reported regarding physical and mental health improvements. Conclusion: This study may be served as base and will be helpful in developing a high intensity interval training for the breast cancer survivors.

Biography

Wook SONG is a full time professor of the Institute of Sports Science and Institute on Aging, Seoul National University, KOREA. His primary research interests include sarcopenia, frailty, myokine, and physical exercise intervention for the elderly and metabolic impairment. His research ranges from cellular/molecular work using animal models studying underlying mechanisms to whole body work measuring functional capacity of human subjects for developing appropriate intervention strategy. Currently, Prof. Song is serving as a vice director of the Institute on Aging in Seoul National University, vice president of the Korean Academy of Sports Science and Exercise Medicine and the Korean Society for Exercise Nutrition, and executive board member of the Asian Nutrition Society for Sport and Health.

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Notes:

Cardiac, lung and left anterior descending artery dosimetric study using deep inspiration breath hold in left breast cancer irradiation

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Purpose: This study was performed to assess cardiac, lung and Left Anterior Descending (LAD) artery dose using deep inspiration breath hold (DIBH) technique comparing with free breath (FB) technique in left breast cancer irradiation with or without internal mammary lymph node (IMN) irradiation.

Material & Method: Twenty-four left breast cancer patients who had breast conserving surgery were prospectively included in this study. CT simulation image data were acquired in FB and DIBH. Respiratory management systems were performed by Varian Real-time Position Management (RPM) during simulation and Vision RT during treatment. Planning target volume of breast, chest wall, IMN and organ at risk (heart, lung, LAD) were contoured in both DIBH and FB CT images. Four treatment planning in each patient were conducted in tangential directions, covering whole breast alone or chest wall plus IMN, in FB images and DIBH images. Planning target volumes need to be covered by 95% isodose line in all plans. Dosimetric parameters including heart (mean heart dose (MHD), heart V25 and V40), lungs (mean left lung dose, left lung V20, mean bilateral lung dose, bilateral lung V20, V40) and mean LAD dose were compared using two tailed unpaired t test. In-field maximum heart distance, heart volume and breast size were evaluated and analyzed using Pearson correlation test to show correlation with mean heart dose.

Result: Comparing FB and DIBH techniques in whole breast irradiation, there is significant reduction in MHD (5.3 Gy vs 2.9 Gy respectively, p 0.006) and Heart V25 (8.2% vs 3.3% respectively, p 0.005). LAD dose has trend of dose reduction in DIBH, 18.3 Gy vs 12.5 Gy in FB, p 0.057. In wide tangent field, covering breast, chest wall and IMN, there were non-significantly better in MHD, 10.6 Gy in FB vs 8.5 Gy in DIBH, p =0.19 and mean LAD, 29.1 Gy vs 25.6 Gy in FB and DIBH respectively, p =0.33 However, Heart V40 and all lung parameters in all treatment plannings did not show significant difference between the 2 techniques. Reduction in MHD was significantly correlated with in-field maximum heart distance, heart volume and breast size. In the patients who had in-field maximum heart distance less than 1 cm, MHD had significantly better and within acceptable dose range. Patients with larger breast size tend to receive more heart dose than smaller breast.

Conclusion: DIBH in left breast cancer irradiation effectively reduce radiation exposure to the heart and LAD while achieving adequate target volume coverage. There were no significant different in lung dose between these 2 techniques. Optimal in-field maximum heart distance will help keeping acceptable MHD.

Biography

Pitchaya Sakyanun is a research student from the Chulalongkorn University, Thailand. Major focus on breast Cancer irradiation.

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Accepted abstracts

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Assessment of factors delaying the diagnosis of breast cancer in patients at radiation & isotope center khartoum, Sudan in 2018

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Statement: breast cancer is one of the most common types of cancer worldwide.50% of breast cancer cases and 58% of the deaths from breast cancer occur in developing countries. In 2011 it was estimated that 508,000 women died due to breast cancer globally, Prevention strategies can lead to some reduction but they can't eliminate the majority of breast cancer cases that occur in low- and middle-income countries, In such countries the diagnosis of breast cancer occurs in very late stages .Therefore, early detection remains the cornerstone of breast cancer control .[1] There is strong evidence that delayed presentation of symptomatic breast cancer is associated with lower survival, Patients with total delays of 3-6 months have significantly worse survival than those with delays of less than 3 months.[2] In Sudan breast cancer is one of the five most common cancers by incidence and prevalence.[3] The purpose of this study is to identify factors delaying the detection of breast cancer to improve the health system approach towards decreasing it's morbidity and mortality. Methodology: a case series study, 79 patients participated in the study. The data was collected using questionnaire and from hospital records, then interpreted and analyzed using SPSS version 16.The data was presented using frequency tables and the relationships between dependent and independent variables were described using cross tabulation tables. Findings: level of education, knowledge of breast cancer, interpretation of symptoms, economical status and distance from health facility were found to be affecting health seeking behavior and delaying first presentation of patients to health care facilities. The social delay was more than 3 months for most of the patients. System delay is mostly affected by the first healthcare personnel experience and his professional suspicion of breast cancer and the timely referral of patients. System delay in most cases was 1-2 months.

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Ablation of an accessory pathway in the median cardiac vein resulting in acute occlusion of the posterior ventricular branch of the right coronary artery: A case report

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Introduction: Post-septal accessory pathways account for 34.5% of the total. Of these, 36% are located within the coronary sinus (CS). Its ablation requires technical alternatives to avoid damage to surrounding tissues, especially branches of the right coronary artery.

Case report: A 22-year-old man was admitted for ablation of an accessory left septal-septal accessory pathway (PSE) (Figure 1). There was a prior attempt of ablation within the SC in another service, resulting in transient loss of pre-excitation. As suggested by the previous study, we started by mapping the SC region with a non-irrigated bidirectional catheter and a premask of 25 MS (Magister Scientiae) was found in the region of the median cardiac vein (VCM) (Figure 2, panel A). Radiofrequency (RF) was administered within this vessel (duration of 60 s, energy of 30 W and temperature of 55 ° C) with loss of pre-excitation after 5 seconds of application. Immediately after, the patient presented chest pain without hemodynamic instability. The electrocardiogram revealed non-pre-excited sinus rhythm and ST segment elevation of 1 mm in the inferior leads (Figure 3). Coronary angiography showed occlusion of the middle third of the posterior ventricular branch (PV) of the right coronary artery, with no signs of thrombus or dissection (Figure 4). Balloon angioplasty was performed, with immediate angiographic success and pre-excitation recurrence soon after. There was recurrence of severe chest pain 10 minutes after balloon, and there was reclusion of PV. Aortic angioplasty was performed with a metal stent, followed by TIMI III distal flow. Retrograde aortic mapping was performed, and a precocity of 20 MS was found in the PSE region (Figure 2, panel B); the RF was applied (duration of 60 s, energy of 30W and temperature of 55 ° C), followed by loss of pre-excitation after 1.5 seconds of application. The patient remained stable and asymptomatic for 3 days, without recurrence of pain and pre-excitation.

Discussion and Conclusion: Ablation within accessory pathways within SC is doable but must be performed with care. Arterial and venous angiography is not routine in many services, but contraindicates ablation if the distance between vessels is less than 2 mm. When indicated, the RF should have low energy (20 to 30 W) and irrigated catheter if temperature or impedance limits its application. A R> S in V1 may be indicative of success by left endocardial technique.

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Notes:

Epidemiology and clinical features of breast cancer in Rwanda

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Background and Objectives: Breast cancer is a growing crisis in the developing world. With a majority of breast cancer deaths occurring in the low income countries including Rwanda. The objective of this analytical study is to assess the epidemiology and clinical features of breast cancer in Rwanda.

Methods: Data were collected from August 2015 to January 2017 by considering information recorded from Out Patients Department (OPD), surgery and laboratory log books and from the archives of patients tested and diagnosed with breast cancer from three referral hospitals. Microsoft Excel and Statistical Packages for Social Sciences (SPSS 19.0) have been used for data entry and analysis.

Results: Brest cancer incidence rate frequency from August 2015 to January 2017 was 33.33% per semester. Amid the diagnosed breast cancer cases in that period, 97.04% of all cases arise in female whereas 2.87% arise in male. The most frequent breast cancer type was invasive ductal carcinoma with 80.43% and the least common were mucinous carcinoma and infiltrating medullary carcinoma with 1.08% for each. According to the age, both male and female between 51 and 60 years old are more likely to be affected with a frequency of 31.73%.

Discussion and Conclusion: Breast cancer frequency is increasing, because patients do not go for diagnosis and the few patients who go for it, are late and breast cancer is already advanced. Therefore we recommend to increase the awareness of breast cancer but also further researches to find affordable ways of breast cancer detection at early stages, for example we have started a research on rapid tests for breast cancer detection.

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Notes:

Lessons learnt from targetting breast screening uptake at a primary care setting within a London local authority

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Breast cancer is the most common cancer to affect women in the UK. While incidence is rising, mortality is falling, part of which is thought to be attributed to earlier detection due to breast screening. Uptake of breast cancer screening in the UK has fallen 1% since 2016 and the overall uptake rate in Barking and Dagenham is below the national minimum standard of 70%. This audit aimed to investigate and increase breast screening uptake at Thames View Health Centre (TVHC), a General Practice in the borough of Barking and Dagenham local authority. Uptake was determined as the percentage of all eligible women (aged from 50 up to 73 years old) who had attended their breast screening appointment. Change was then implemented in the form of updating paper records onto the computer system (EMIS), updating EMIS alerts reminding women to attend screening, adoption of a Bengali-translated information leaflet and a new poster placed in all public waiting areas. Initially, 65.5% of all eligible females (n=524) attended their breast screening appointment (n=343). Of those who attended with their ethnicity recorded, the lowest ethnic group was the Bangladeshi/Indian/Pakistani one at 9.9% (n=28). There were 35 individuals initially found to have "no-record" of breast screening, however further investigation found that 62.9% of them had an un-coded screening-related paper or electronic record. Following the implementation of change, the cycle was closed at 5 months. Uptake of breast screening increased by 1.2% to 66.7% (n=363). Discussion of reasons for the modest increase included the lack of an exclusion criteria and some women having two codes (attended and did not attend) which will have modified the findings. Similarly, due to a lack of demographic data held on EMIS, the interventions may not have been targeted to the correct low-uptake groups as well as potentially not being well tailored to the groups' needs. Future recommendations include improved demographic data collection, enquiry at the first point of contact of breast screening status and reasons for non-attendance, breast screening education at the community level such as place of worship and text message reminders of the importance of screening and screening cycle timings. Combined, these could contribute to further increase in uptake of breast screening and overall earlier breast cancer diagnosis and thus prognosis.

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Vascular Tracheobronchial Compression Syndrome, a rare case.

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A 72-year-old female presented for an elective laminectomy under general anaesthesia. The patients only reported medical background was mild asthma irresponsive to a beta 2-adrenergic receptor agonist. Prior to the procedure, the anaesthetist attempted multiple times to intubate the patient without success. The airway was originally thought to be fractured and the airway proceeded to swell. The patient was unable to be ventilated via bag and mask and a decision was made to proceed to secure an airway via the creation of a tracheostomy. A tracheostomy was created without difficulties and patient was successfully ventilated. The elective laminectomy procedure was abandoned, the patient was transferred to recovery. A post-operative computed tomography illustrated a massive aortic arch aneurysm that compressed the patient's trachea. Cardiothoracic surgery and vascular surgery were both consulted and due to the procedural high risk, a decision was made not to repair the patient's thoracic arch aneurysm.

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Notes:

Assessing of the "risk of pain" in mammography

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Purpose: Mammography is an important tool in the secondary prevention of breast cancer. However, according to literature, a wide percentage of women reports pain or discomfort during the procedure that may undermine compliance with periodic or follow-up mammography. The study focuses firstly on identifying the factors that determine the risk of pain during the mammography procedure with special attention to the woman-related factors, the examination context, the procedure itself and the screening staff; secondly, it sets out to define recommendations to reduce the pain experienced during mammography.

Methods and Materials: 300 women >40 years were interviewed immediately before and after undergoing mammography. Pre-test interview was used to evaluate the expected pain and the risk factors. Subsequently, after an appropriate counselling and the given option over the control of the compression force, mammography was performed. In post-test interview the women were asked about the pain experienced, the difference between what experienced and their preliminary expectation, and the most stressful moment of the entire procedure.

Results: Study results showed a number of women-related, staff-related and procedural-relate factors considered significant in the assessing of the risk of pain, besides anticipatory anxiety related to a possible positive diagnosis. Anticipation of pain and discomfort were the dominant factor explaining a pain experience, except for women at their first mammography. For these women seems to be crucial the staff behaviour, even more for those at their follow-up mammogram, in addition to anticipatory anxiety. Despite the most of assessed women expected that mammography would be painful, most of those who anticipated pain has reported that the severity of pain experienced during current test was much lower than how it was anticipated, except from women with breast cyclic pain.

Conclusions: These data serve to emphasize the need for a careful assessment of the emotional status of the woman and an appropriate pre-mammography counselling, to address those factors which may interfere with future adherence and compliance. Interventions include an empathetic and supportive breast radiographer behaviour. In the circumstances that previous mammography was very painful, or it is known that the participant has sensitive breasts, additional care should be taken by offering women the chance to control the pressure themselves, as earlier studies showed that this measure is effective without compromising image quality. The results also highlight the need for promote a specialist training for breast radiographers, whose attitude and behaviour play an important role in the experience of pain and, consequently, on compliance with periodic or surveillance mammography.

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Notes:

Evaluating the appropriate use of Piperacillin / Tazobactam in cardiac center of King Fahad Medical Center

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Background: The appropriate use of Piperacillin / Tazobactam (Pip/Taz), including correct dosing, stopping for negative culture, or de-escalation according to the microbiological culture test, is essential to reduce the antibiotic resistance. In surgical cardiac unit Piperacillin/ Tazobactam was started empirically (started if the infection is suspect till culture workup with its sensitivity to Piperacillin/ Tazobactam, other antibiotics or even negative culture) . In this study, we aimed to evaluate the use of Pip/Taz based on requests for cultures and de-escalation according to sensitivity results of culture tests at the surgical cardiac unit of King Fahad Medical City (KFMC).

Method: This was a prospective study aimed to involve all those patients who admitted to the cardiac surgery unit at KFMC and prescribed at least one day of Pip/Taz as an empirical therapy throughout one year from October 2017 to October 2018. Data collected on whether microbiological culture and sensitivity test requests were made within 24 h of starting Pip/Taz the appropriate dosing, stopping for negative culture and de-escalation after receiving culture and sensitivity results.

Results: Of the 150 patients who received Pip/Taz, three patients were excluded from the study because of early death or discharge. Cultures were done in 125 of 147 (85 %). The overall appropriate use of Pip/Taz was seen in 78 patients (53 %). The results of culture tests justified the continuation of Pip/Taz only in 32 patients (52%) out of 62 cases. 21 cases showed sensitivity to narrow spectrum antibiotics, De-escalation was delayed >24 h or not done in 7 out of 21 (33%) eligible patients. On the other hand, 22 cases; 15 % of patients continued receiving Piperacillin/ Tazobactam without any culture test or ID consultation during the whole treatment course.

Conclusion: The empiric uses of Piperacillin/ Tazobactam in the surgical cardiac unit at KFMC- a tertiary care hospital - in Saudi Arabia was largely inappropriate and not entirely driven by the culture-test result. Interventions are needed to optimize the use of Piperacillin/ Tazobactam. Important interventions include appropriate culture and sensitivity driven use and timely de-escalation or discontinuation when indicated. This is preventing emergence of resistance and reduce the patient and financial toxicity.

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The Forgotten Aspect of Survivorship

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Problem: When a woman is diagnosed with breast cancer the major aspect of treatment and survivorship is physical. What are the treatment options? Will I live or die? What if I don't have insurance? These are only a few challenges facing women diagnosed with breast cancer. However, there is another component of the diagnosis that is pivotal to treatment- the psycho-social healing. Research states that people diagnosed with a serious disease or illness gravitate toward their faith. This is a strong component of treatment that can't be overlooked.

The Approach: Navigating the Roadmap to Survivorship includes the emotional and spiritual wellbeing of the patient with breast cancer. Medical staff do not have ample time to address the role psycho social treatment plays in the treatment of breast cancer. Moreover, the patient may not be aware that she is having emotional challenges during this part of life's journey. Therefore, support groups play a pivotal role in the treatment of breast cancer patients.

Conclusion: Reconstruction of a Survivor was founded to provide that missing link beyond the physical treatment of breast cancer. Reconstruction of a Survivor provides a 26-session curriculum designed to address the challenges women encounter when diagnosed with breast cancer. This transportable curriculum has benefited thousands of women so they experience emotional and spiritual support and healing as they journey through a diagnosis of breast cancer.

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Notes:

Epidemiology and molecular subtype status of breast cancer: Bangladesh perspective.

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Background: Molecular subtyping of breast cancer is still not very common in all hospitals of Bangladesh. Here genetic analysis is unthinkable till now. But the highest centers of the country are regularly doing immunohistochemistry through which molecular subtyping are determined and it opened a newer dimension of breast cancer treatment in Bangladesh.

Objective: To observe the incidence, epidemiological and clinico-pathological status of different molecular subtypes of breast cancer patients.

Materials and method: At first 149 patients were enrolled by purposive sampling. Among them 138 patients were finalized according to the eligibility criteria. A pre-structured, peer reviewed, properly tested, interview and observation based data collection sheet was prepared. Data regarding epidemiological profile, clinical profile and histopathological profile were collected, compiled, edited and analyzed. Mean, frequency, chi-square test were adopted for analysis. Statistics were found significant at <0.05.

Results: Mean age of patients was 43.20±9.69 years. Mean BMI was 25.26±13.47. Out of 138 patients, only 4.34% had positive family history, 64.49% and 35.5% had left and right sided breast cancer respectively, 65.2% had tumour size 2-5cm which was followed by 27.53% cases with >5cm sized tumour in maximum diameter. Among the five major molecular subtypes both luminal A and triple negative breast cancer (TNBC) showed high prevalence (27.53%). Association of molecular subtypes with histopathological grading revealed TNBC was the most aggressive among all molecular subtypes. Axillary lymphadenopathy was present in almost all cases.

Conclusion: Luminal A and TNBC were observed as the most evident molecular subtypes among Bangladeshi breast cancer patients. TNBC showed higher association with advance histopathological grade. Clinical status was almost similar in all subtypes.

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Notes:

Network pharmacology-based discovery of natural and herbal anti-inflammatory agents co-targeting ischemic brain and heart diseases

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Although stroke and coronary artery disease (CAD) are different diseases, both preclinical and clinical evidence have suggested their intricate connections, some of which mediated by inflammation and immune response. Recent Canakinumab Anti-inflammatory Thrombosis Outcome Study (CANTOS) trial demonstrated the effects of IL-1β neutralizing antibody in atherosclerosis, providing the first convincing proof that modulating inflammation improves patients' cardiovascular health, and launches the era of immunotherapy in CAD. Herbal medicine has been a rich source for CAD drugs and also has great potential for the discovery of novel anti-inflammatory and immune-modulating agents. We present an integrated strategy using network pharmacology/transcriptome analyses followed by cell-based and in vivo experimental validation to decipher common and differential pharmacological mechanisms of herbal medicine formulae on stoke and CAD treatment. Examples of using this approach to systematically identify multiple active components from Radix Salviae miltiorrhizae, Flos Carthami tinctorii and Ginkgo biloba co-targeting the brain and heart diseases and revealing their unique anti-inflammatory mechanisms, will be discussed.

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