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Anatomic Properties of Epicardial Coronary Arteries Correlate to Coronary Slow Flow Phenomenon. *Shao-Ping Nie, Xiao Wang, Li-Li Geng, Xiao-Shan Zhang, Ya Yang, Edmundo P. LOPES LAO, Jun Li, Yan Qiao, Xin-Min Liu, Tai-Yang Luo, Jian-Zeng Dong, Xiao-Hui Liu, Chang-Sheng Ma. Beijing Anzhen Hospital, Capital Medical University, Beijing, China.*

Background: Coronary slow flow phenomenon (CSFP) is an important, angiographic clinical entity but its etiology remains unclear. We attempted to explore the correlation between local anatomic properties of epicardial coronary arteries and CSFP occurrence.

Methods: One hundred and thirteen consecutively patients (56.1 ± 9.1 years) with CSFP and 131 controls (56.7 ± 9.7 years) with angiographically normal coronary flow were studied after documenting coronary flow by corrected thrombolysis in myocardial infarction (TIMI) frame count (CTFC) method. Lumen index (LI, expressed as the ratio of ostium diameter to middle diameter in each major epicardial coronary artery), tortuosity index (TI, defined as the percent ratio of calculated shortest distance divided by total length of the coronary artery) and the number of distal branches (NDB, defined as the number of vessels with diameter ≥ 1 mm in distal coronary arteries) at end-systole were introduced for quantitative analysis of coronary anatomy. The mean value of anatomic parameters was expressed as the average of summed value of three epicardial coronary arteries.

Results: Compared to controls, CSFP patients showed higher TI and NDB in all three major coronary arteries (all $p < 0.05$). The LI of right coronary artery ($p = 0.027$) and the mean value ($p = 0.004$) were significantly higher in CSFP patients than in controls. Mean TI was significantly correlated with mean CTFC ($r = 0.476$, $p < 0.001$). A weak but significant correlation was found between mean NDB and mean CTFC ($r = 0.186$, $p = 0.004$). However, the higher mean TI ($b = 0.424$, $p < 0.001$) was the only independent correlates for mean CTFC. Multivariate logistic analysis revealed that mean TI (OR 1.202, 95% CI 1.106-1.306, $p < 0.001$) and mean NDB (OR 2.291, 95% CI 1.227-4.280, $p = 0.009$) were independent risk factors of CSFP occurrence.

Conclusion: The presence of CSFP is associated with higher tortuosity and more distal branches of epicardial coronary arteries. Coronary local anatomic properties may be implicated in CSFP occurrence.

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Independent Prognostic Value of Elevated Adiponectin in. *Wei-Hsian Yin. Cheng-Hsin General Hospital, Taipei, Taiwan.*

Background: A complex catabolic-anabolic imbalance may cause body wasting in patients with chronic heart failure (CHF). Adipose tissue secretes a variety of cytokines or adipokines that are important regulators of energy balance. However, the clinical data about the prognostic value of adipokines are sparse. The aim of this study is to determine whether various adipose-specific adipokines can provide prognostic information in patients with CHF.

Methods: We measured circulating levels of three adipokines (adiponectin, resistin, and leptin), N-terminal pro-B-type natriuretic peptide (NT-proBNP), and high-sensitivity C-reactive protein (hsCRP) in 96 patients (70 men and 26 women, aged 53 ± 15 years) with proven dilated cardiomyopathy, symptomatic CHF and left ventricular ejection fraction (LVEF) < 40%. Major adverse cardiac events (death, heart transplantation or hospitalization with worsening CHF) during a median follow-up period of 216 days were determined.

Results: The levels of the 3 adipokines were significantly correlated with NT-proBNP. However, only the concentrations of adiponectin, corrected for BMI, increased with the severity of CHF and were significantly inversely correlated with LVEF ($r = -0.230$, $p = 0.024$).

Furthermore, Cox proportional hazards analyses revealed that high levels of corrected adiponectin were predictive of development of adverse clinical outcome (hazard ratio, 2.947, $p = 0.037$), independent of clinical variables, NT-proBNP and hsCRP levels.

Conclusion: A high adiponectin level was a predictor of adverse clinical outcome, independent of risk markers of CHF severity. More research must be carried out to elucidate the exact role reserved for adipokines in the pathophysiology of the heart failure syndrome.

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Radiation Doses to Patient in Coronary Interventions in a Hospital in Thailand. *Worawut Roongsangmanoon¹, Suphot Srimahachota², Anchali Krisanachinda², Madan Rehani³. ¹International Atomic Energy Agency, Vienna, Austria; ²King Chulalongkorn Memorial Hospital, Bangkok, Thailand; ³HRH Princess Maha Chakri Sirindhorn Medical Center Srinakharinwirot University, Nakhonnayok, Thailand.*

Background: In interventional cardiology, radiation dose is best estimated by the Dose Area Product (DAP), which is the absorbed dose to air multiplied by the X-ray beam cross-sectional area at the point of measurement and it is expressed in Gy.cm². DAP delivered to a patient during a procedure is both a measure of stochastic risk and a potential quality indicator. Physicians should be made aware of the exposures they deliver to their patients and how they compare to established norms.

Methods: In total, 308 (44.4%) diagnostic CAs (CA with or without left ventriculography or aortography), 229 (33.0%) one-vessel PCIs, 53 (7.6%) two or three-vessel PCIs, and 15 (2.2%) PCIs to CTO were carried out. Two biplane angiographic systems were used and patient dose data was collected using DAP and cumulative air kerma.

Results: The mean DAP value per procedure in diagnostic CA in room No.1 (Siemens Axiom Artis dBC) was 45.2 ± 28.7 Gy.cm² and average fluoroscopy time was 5.7 ± 5.2 minutes, compared to room No.2 (Philips Allura Xper biplane FD 20/10) where mean DAP for diagnostic CA was 78.6 ± 58.4 Gy.cm² ($p < 0.001$), and average fluoroscopy time was 6.2 ± 5.1 minutes ($p = 0.896$). The mean DAP value per procedure in one-vessel PCIs in room No.1 was 97.8 ± 67.5 Gy.cm², average fluoroscopy time was 13.3 ± 12.3 minutes, compared to one-vessel PCIs in room No.2, mean DAP value of 159.4 ± 82.4 Gy.cm² ($p = 0.030$), and average fluoroscopy time was 14.7 ± 9.4 minutes ($p = 0.673$). The mean DAP value per procedure in two or three-vessel PCIs in room No.1 was 153.1 ± 65.6 Gy.cm², average fluoroscopy time was 19.9 ± 10.6 minutes, compared to two or three-vessel PCIs in room No.2, mean DAP value of 168.0 ± 94.7 Gy.cm² ($p = 0.070$), and average fluoroscopy time was 18.7 ± 13.1 minutes ($p = 0.351$). DAP values per procedure in diagnostic CA, one-vessel PCIs, and two or three-vessel PCIs in room No.2 were higher than room No.1 after multivariable correction for patient weight and fluoroscopy time.

Conclusion: Regular measurement of patient doses is an essential step to optimize exposure. It makes operators aware their own performance and allows comparisons with the generally accepted practice.

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A Comparison of Clopidogrel Responsiveness in Patients with Chronic Renal Failure: Results of the Adjunctive Cilostazol Versus High Maintenance Dose Clopidogrel (PIANO) Study. *Jong Shin Woo, Weon Kim, Sang Jin Ha, Kyung Hwan Jeong, Tae Won Lee, Chun Gyooh Ihm, Kwon Sam Kim. Kyung Hee University Hospital, Seoul, Korea (Republic of).*

Background: Impaired renal function is associated with reduced responsiveness to clopidogrel. There is no study to overcome platelet hyporesponsiveness in chronic kidney disease (CKD) patients. The pur-