Methods: A retrospective study on 92 patients treated with chronic hemodialysis at dialysis center of UH of Ibn Rochd of Casablanca, between January 2012 and May 2014. All patients benefited from a transthoracic echocardiographic study.

Results: The average of early transmitral velocity (E) was 94.48 ± 25.24 cm/s, the transmitral velocity when atrial contraction (A) was 91.06 ± 45.25 cm/s and the average of E/A ratio was 1.13 ± 0.43. In 45 cases (46.7%), the ratio was between 1 and 2; in 44 cases (47.8%) was less than 1 and in 3 cases it was more than 2. The average of DTE was 214.54 ± 77.46 cm/s. The average of IVRT was 93.57 ± 20.86 ms. The abnormalities of diastolic function were found in 60.8% of cases, with relaxation disorder in 46.7% of cases and a restrictive profile from 6.5% of cases. On DTI mode, the average of (Ea) was 14, 23 ± 4.81 cm/s and (Sa) was 16.86 ± 4.95 cm/s. The E/Ea ratio was 7.24 ± 2.81 on average. The report dP/dt – dAim was calculated for patients with E / Ea ratio between 8 and 15. Filling pressures were considered high in 11 cases (12%). Patients with high LV filling pressure had reports E / Ea significantly higher than patients with normal LV filling pressures. They had a dilated left atrium with a significantly higher LAS.

Conclusion: Chronic hemodialysis patients represent a particular profile of patients with variable volume expansion. Thus, a slight hyper- blood volume may cause pulmonary congestion and acute pulmonary edema. On the other hand, the ultrafiltration per- dialysis may induce a significant decrease in filling pressures and cause hypotension.

0089

Echocardiography and right ventricular function: validation of functional criteria compared to in-vivo and ex-vivo contractility parameters

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Background: Right ventricular (RV) dysfunction is a major determinant of long-term survival in congenital heart diseases. Early echocardiographic detection of RV failure is mandatory, but recent parameters need to be validated.

Aims: Objectives were to: (1) validate standard and strain echocardiographic parameters for evaluation of RV systolic function, compared to hemon-dynamic parameters; (2) assess the accuracy of these parameters for early detection of RV failure.

Methods: Combined RV overload as observed in repaired tetralogy of Fallot was surgically reproduced in 2-month-old piglets (n=6). Age-matched piglets were used as controls (n=4). RV function was evaluated at baseline and Fallot was surgically reproduced in 2-month-old piglets (n=6). Age-matched (isoprenaline 100nM) β Contractile reserve was assessed by in-vivo (dobutamine 5μg/kg) and ex-vivo calcium transients were recorded in RV isolated myocytes (IonOptix).

Results: Contractile reserve was assessed by in-vivo (dobutamine 5μg/kg) and ex-vivo (isoprenaline 100nM) β-adrenergic stimulation. On echocardiography FAC, TAPSE, S’ peak and RV free wall longitudinal strain rate were significantly decreased and correlated with FEVD. Strain rate and S’ peak were correlated with Emax (r=0.75 and 0.78, p<0.05). Isolated RV myocytes from operated animals exhibited hypertrophy, decreased sarcomere shortening peak in response to isoprenaline (L= 7.8 ± 2.8% vs 10.7 ± 2.9%, p<0.05), and increased spontaneous calcium waves suggesting perturbations of calcium homeostasis.

Conclusion: In this model, both standard and strain echocardiographic parameters allowed the detection of early impairments of RV function and cardiac reserve, which are associated with cardiac excitation-contraction coupling alterations.

0433

Screening and risk factors of abdominal aortic calcifications in chronic hemodialysis: contribution of lateral abdominal X-ray

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Background: Cardiovascular diseases are the first leading cause of morbidity and mortality in chronic hemodialysis. Cardiovascular calcifications are common in this population. The aim of our study was to determine the prevalence and risk factors of aortic abdominal calcifications (AAC) in a hemodialysis center.

Methods: Cross-sectional study including 51 chronic hemodialysis (for more than six months) who have been tested for AAC by lateral abdominal X-ray with evaluation of risk factors from clinical and biological parameters by SPSS statistical software.

Results: The AAC were found in 49% of cases with no sex predominance and a mean age of 61.4 years. The prevalence of AAC was correlated with age and sex.

A score>= 6 concerned 44% of patients. Four aortic segments were involved in 24% of cases with a predilection for the posterior wall. Compared with the group without CAA, patients with CAA were older (61 vs 55.6 years, P 0.002), had more cases of dyslipidemia (6 vs 2), ischemic heart disease (5 vs 1, P 0.038) and were older hemodialysis (107.4 vs 57.4 months, P 0.03). There was no significant difference between the two groups regarding serum calcium, phosphorus, hemoglobin or CRP. Multivariate analysis showed a significant correlation between the presence of calcifications and advanced age and dialysis duration.

Discussion: Our results demonstrate a high prevalence of abdominal aortic calcification in hemodialysis. The advanced age and long duration in hemodialysis are independent risk factors. Although calcium phosphate parameters are not involved in our study, it is recognized that the use of low doses of calcium carbonate, vitamin D and diet low in dairy products, and the use of non-calcium chelating phosphorus could reduce the prevalence and progression of these calcifications.

Conclusion: The lateral abdominal X-ray is a simple and reproducible tool for the detection and monitoring of this complication in hemodialysis.

0209

Cardiovascular exploration integrated in International Mouse Phenotyping Consortium of new mutants for enhancer genes

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A primary goal of mouse research is its application to human pathophysiology. Genetically engineered mouse model phenotyping has an increasing pivotal role in bridging preclinical and clinical development. Mouse Clinical Institute is involved in the International Mouse Phenotyping Consortium (IMPC), which comprises major mouse genetic research institutes. Its aim is to address the challenge of developing an encyclopedia of mammalian genes function. After knockout generation, each mutant line undergoes a standardized pipeline of high-throughput tests to identify developmental, anatomical, physiological, behavioral or potentially pathological phenotypes in order to determine the function of every gene. In the last 2 years, we have generated and characterized 60 mutants for enhancer genes. Some of them (NOL8, Yip5f, Setb1, NTF5) have revealed interesting phenotypes regarding cardiovascular functions. E.g., NOL8 gene that encodes the nuclear protein 8 plays a role in cell growth and regulation of gene...