

## Prevalence and risk factors of left ventricular hypertrophy among haemodialysis patients in Gezeira hospital for renal diseases and surgery

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### Abstract:

Cardiac disease is major cause of sudden death in dialysis patient according to reports from largest international registers. And Left ventricular hypertrophy is strongest independent predictor of cardiovascular mortality in dialysis patients and it is worsening associated with SCD. Several studies demonstrated prevalence of LVH is high among patients on maintenance haemodialysis and many risk factors associated with it was found in these patients are anaemia, hypertension and volume overload. Early and proper management of these factors prevent and regress the development of LVH, for that many clinical and nephrologist researchers focus their attention on processes and factors that are present in these patients. Aim: The aim of this study is to determine the prevalence of left ventricular hypertrophy an risk factors among patients on regular haemodialysis in Gezeira hospital for renal disease and surgery Method : This study(cross-sectional study) was conducted on 70 patients on regular haemodialysis(according to inclusion and exclusion criteria ) , questioner, blood pressure measurement, blood sampling for haemoglobin, ECG and echocardiography was done.Result : patient age was  $42 \pm 12$  years” mean  $\pm$  SD” (minimum age was 20 and maximum 80 years), and 57% of patients were male. the of LVH found in 68% (by echocardiography ,only 7% diagnosed by ECG),( out 40male patients 30 and out 30 female patients 15). 88% of the patients had anaemia with  $Hb < 12$  gm/dl, and is found in 44 out 48 patients with LVH, Systemic hypertension with  $BP > 140/90$ mmHg was present in 74% of the patients ,and is found in 42 out 48patients with LVH, volume overload were present among 63% of patients according to examination(32 out of 48 patients with LVH),A chi square test was performed to measure relationship between( age, gender, anaemia, volume overload, HTN and duration of dialysis) and LVH, the relationship was statistically

significant between age and LVH, HTN and LVH, DOD and LVH , P value were .001, .013 and .005 respectively. : in this study we conclude that LVH is highly prevalent among haemodialysis patients , and there is significant relationship between age, HTN and DOD and LVH.

Left cavity hypertrophy is enlargement and thickening (hypertrophy) of the walls of your heart's main pumping chamber (left ventricle).

Left cavity hypertrophy will develop in response to some issue — like high pressure or a heart disease — that causes the ventricle to figure more durable. because the employment will increase, the muscle tissue within the chamber wall thickens, and typically the scale of the chamber itself conjointly will increase. The megacardia muscle loses snap and eventually might fail to pump with the maximum amount force as our requirement .

Left cavity hypertrophy is additional common in those who have uncontrolled high pressure. however regardless of what your pressure is, developing left cavity hypertrophy puts you at higher risk of a attack and stroke.

Treating high pressure will facilitate ease your symptoms and should reverse left cavity hypertrophy.

In hypertensive patients, Associate in Nursing adaptational cardiac muscle response to multiplied viscus afterload ends up in left cavity hypertrophy (LVH) . hypertensive LVH could be a powerful freelance predictor for fulminant viscus death , cavity arrhythmias , cardiac muscle anemia , coronary heart condition , heart condition , additionally as CVA.

Echocardiography is additional sensitive and specific than cardiography within the detection of LVH . Classification of patients supported whether or not left cavity mass index (LVMI) and relative wall thickness (RWT) square measure traditional or abnormal yields four left cavity (LV) geometric patterns: traditional, coaxal transforming, coaxal hypertrophy and eccentric hypertrophy . Previous studies have according that echocardiographically determined fifty-five pure mathematics will severally predict major vessel events, and also the worst is coaxal hypertrophy, followed by eccentric hypertrophy, coaxal transforming and traditional pure mathematics . additionally, fifty-five geometric pattern is closely associated with stroke risk .

The various prevalence of fifty-fiveH and abnormal LV pure mathematics are according in numerous populations . So far, solely some reports square measure accessible on the prevalence of fifty-five geometric patterns during a massive Chinese untreated hypertensive population. Therefore, we have a tendency to conducted a cross-sectional study to survey the prevalence of fifty-fiveH and LV geometric patterns in untreated cardiovascular disease population in northern China.

This community-based cross-sectional study was conducted within the Rizhao town and Hong Xing Long County, within the northern region of China from 2009 to 2010. A period cluster sampling methodology was used. a complete of nine,286 subjects (5167 men and 4119 women) completed the survey, yielding a response rate of ninety seven.48%. Among them, 2984 hypertensive patients were known and totally examined. cardiovascular disease was outlined as beat pressure (DBP) of  $\geq 90$  mmHg, and/or pulse pressure (SBP) of  $\geq 140$  mmHg, MD designation, or current medication for cardiovascular disease (as outlined by UN agency 1999). Untreated cardiovascular disease was outlined as ne'er receiving any antihypertensive drug treatment before the study.

Patients were excluded if that they had myocardiopathy, ischaemic heart condition, innate heart condition, or different organic sickness|heart

condition|cardiopathy|cardiovascular disease} together with control disease. Patients with high blood pressure, either suspected or established, were excluded additionally.

The study was ruled beneath the foremost recent (2007–2008) version of the globe Medical Association's Declaration of Finnish capital. The study protocol was reviewed and approved by the moral committees of the Fuwai Hospital and native hospitals. Participation is voluntary; consent was obtained from every participant. All investigators were trained at the vessel Institute, Chinese Academy of Medical Sciences (Beijing, China) and qualified for the clinical investigation.

We known eligible people in step with their age and documents of residence and invited them to a community clinic by phonephone. every participant was interviewed and completed the same form that enclosed a variety of demographic factors, medical record, history of medicines, and life-style.

Anthropometric measurements of subjects UN agency wore light-weight vesture and were in vacant feet were conducted by knowledgeable about staff. Height was measured once to the closest zero.1 cm, and weight was measured within the upright position to the closest zero.1 kg.

BP was measured by trained professionals with the same mercury pressure gauge, and one among 3 cuff sizes (regular adult, large, or small) was chosen on the idea of the circumference of the participant's right arm. All participants were suggested to avoid alcohol, smoke smoking, coffee/tea, and exercise for a minimum of half-hour before their BP activity. 3 BP readings were recorded a minimum of one minute apart within the sitting position when a minimum of 5-minute rest and averaged for more analysis.

Transthoracic diagnostic procedure was performed in step with commonplace protocol [15] with M-mode, 2-dimensional (2D), and color Doppler recordings from the parasternal long-axis and short-axis windows, additionally as second and color Doppler evaluations from the top window to yield 2-, 3-, Associate in Nursingingd 4-chamber pictures with an HP 5500 (Phillips

## *Extended Abstract*

Medical System, Boston, Massachusetts, USA). The electrical device frequency was a pair of 5 to 3.5 MHz. Optigo echocardiographic recorders (Agilent, Boston, Massachusetts, USA) were used often to screen subjects UN agency couldn't reach the native study center. The echocardiographic examination was supervised

by a pair of physician-echo cardiographers with a minimum of a pair of years of expertise. Before the study, they were trained within the echocardiographic protocol at the vessel Institute, Chinese Academy of Medical Sciences.