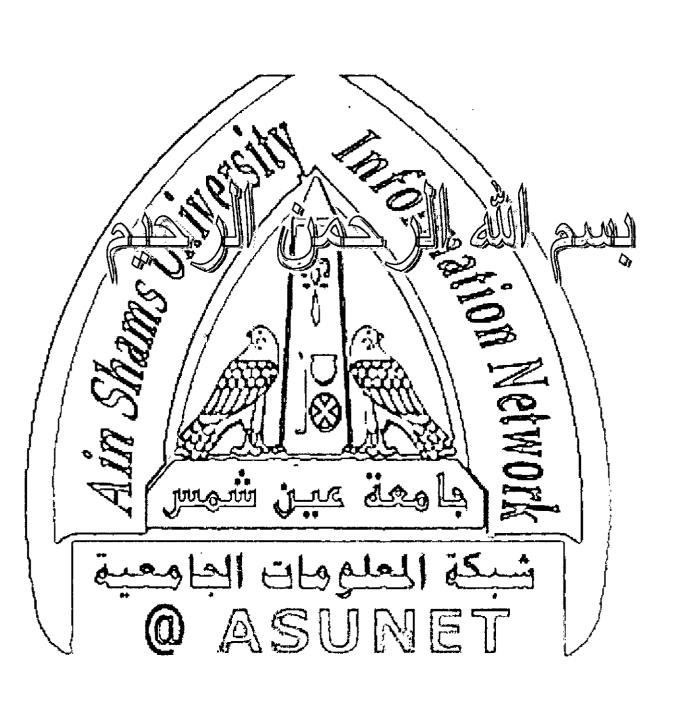


شبكة المعلومات الجامعية







شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها على هذه الأفلام قد أعدت دون أية تغيرات



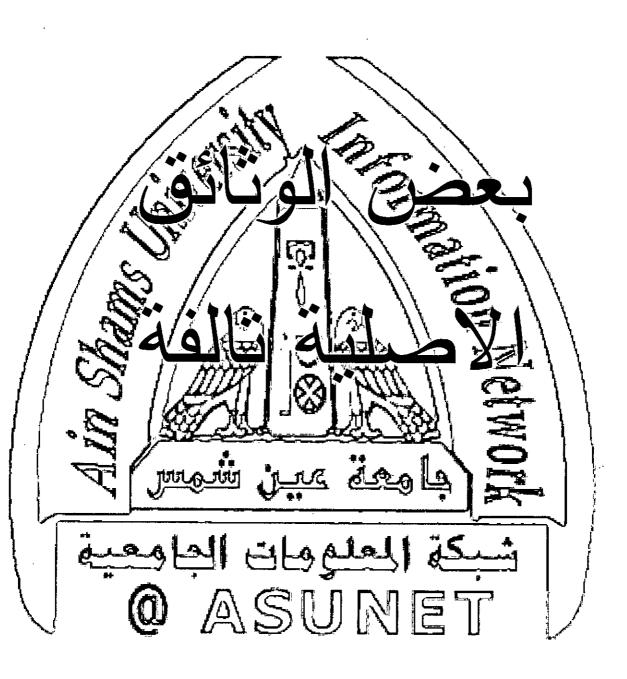
يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار المعدد عن الغبار المعدد عن ١٥-١٠ % درجة حرارة من ٢٥-١٥ منوية ورطوية نسبية من ٢٥-١٠ ثقي درجة حرارة من ٢٥-١٥ منوية ورطوية نسبية من ٢٥-١٥ لعن المعدد المع









PULMONARY GAS EXCHANGE AND QUALITY OF LIFE IN PATIENTS WITH LEFT VENTRICULAR FAILURE

615,82

Thesis

Submitted in Partial Fulfillment for the Requirements of the Master Degree in Physical Therapy

$\mathbf{B}\mathbf{y}$

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Dedication

I would like to dedicate this piece of work to my parents, my wife and my children Aia, Yousof and Hagar for their patience and encouragement to continue and finish this work

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First of all I would like to kneel thanking for ALLAH. I thank God for the patience, strength and energy to undertake this work and to completion.

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Abstract

This study was designed to find the relationship between pulmonary gas exchange and quality of life in left ventricular failure (LVF). The study was conducted on sixty male patients with LVF, NYHA class II&III, selected from National Heart Institute. The mean age (57.24±4.45) years and the mean of LVEF (38.91±2.69%). Patients underwent cardiopulmonary exercise testing and completed the MLHFQ over a 1-year period. The mean duration of left ventricular failure (9.33±4.67 months). The mean of VO2max (11.9 ± 1.07 ml/kg/min). The mean of VE/VCO2 slope (39.98 \pm 14.26). The mean of MLHFO overall scores (63.3±21.73). The mean of MLHFQ physical subscores (21.7±7.34) and the mean of MLHFQ psychosocial /symptomatology sub- score (41.6 \pm 14.44). The results revealed that VO₂max had a strong, negative correlation with MLHFQ (r = -0.73 & P = 0.001, r = -0.74 & P = 0.001, and r= -0.70&p=0.001) overall the patients' groups. VE/VCO2 slope had a strong, positive correlation with MLHFQ (r=0.87& P=0.001, r=0.86& P=0.001 and r=0.87&P=0.001) overall the patients' groups. Also, VO₂max had a strong negative correlation with VE/VCO2 slope (r= - 0.74 & P= 0.001) overall the patients' groups.

Key words: Ventilatory efficiency, maximal oxygen consumption, quality of life, MLHFQ, LVF, left ventricular systolic dysfunction, CHF.

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List of abbreviations

ACE : Angotensin Convering Enzyme ACTH : Adrenocorticotrophic hormone

ANP : Atrial natriuretic peptide

AT : Anarobic threshold ATP : Adenosine triphosphate

Ca : Calcium

CAD : Coronary artery disease

 $C(a-v)O_2$: arterio-venous oxygen content difference

CHF : Chronic heart failureCM : CardiomyopathyCO : Cardiac outputCO₂ : Carbon dioxide

CPX : Cardiopulmonary exercise stress testing

CR : Cardiac rehabitation
CVD : Cardiovascular disease
ECG : Electrocardiography
EDV : End-diastolic volume

EF : Ejection fraction

ERV : Expiratory reserve volume

ESV : End systolic volume

ET : Endothelin

FVC : Forced Vital Capacity

HF: Heart failure HR: Heart rate

LVF : Left ventricular failure

LVH : Left ventricular hypertrophy

LVEDP : Left ventricular end diastolic pressure LVSD : Left ventricular systolic dysfunction

METs : Metabolic equivalent MI : Myocardial infarction

MLHFQ : Minnesota Living with Heart Failure Questionnaire

Na : Sodium

NE : Norepinephrine NO : Nitric oxide

NYHA: New York Heart Association

O2 :Oxygen

PCO₂: Carbon dioxide pressure

: Pulmonary Capillary Wedge Pressure **PCWP**

: Oxygen pressure PO₂

Peak oxygen consumption PVO₂

: Quality of life QoL

: Renin-angiotensin system RAS

: Respiratory exchange ratio (VCO2/VO2) RER

: Severe heart failure SHF

: Studies of left ventricular failure **SOLVD**

SV : Stroke volume : Target heart rate THR

: Ventilation perfusion ratio, Va (alveolar ventilation), Q (blood flow) Va/Q

: Carbon dioxide production VCO₂ : Dead space / Tidal volume VD/VT

: Physiologic dead space volume Vd

 $V_{\rm E}$: Minute ventilation

VE/VCO2 : Ventilatory efficiency : Oxygen consumption VO₂

: Maximum Oxygen consumption VO2max

: Tidal volume Vт

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