Nutritional assessment of children with congenital heart diseases in the Pediatric Cardiology Clinic, Pediatric Hospital, Ain Shams University

Thesis

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Maha Mawad

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AA..... Arachidonic acid
ACEIs……. ... Angiotensin-Converting Enzyme Inhibitors
ARBs……. Angiotensin II Receptor Blockers
AS ..... Aortic stenosis
ASD..... Atrial septal defect
AVSD..... Atrioventricularseptal defect
BMI..... Body mass index
BUN……Blood urea nitrogen
CAVC……Common atrioventricular canal
CDC..... Center of disease control
CHDs ..... Congenital heart diseases
CHF ..... Congestive heart failure
CHO ..... Carbohydrate
COA……Coarctation of aorta
CPB……Cardiopulmonary bypass
CRRT……. Continuous renal replacement therapy
DEXA ..... Dual energy x-ray absorptiometry
DHA……Docosahexaenoeic acid
EBM…….. Expressed breast milk
EFAD……. Essential fatty acid deficiency
EN…….. Enteral nutrition
FFQ…….Food frequency questionnaire
FTT..... Failure to thrive
GERD………Gastroesophageal reflux disease
GH…….. Growth hormone
GI……Gastrointestinal
HB..... Hemoglobin
HCT..... Hematocrit
HF ..... Heart failure
HFA……Height for age
IBW……Ideal body weight
IGF-1 ..... Insulin growth-factor 1
IV……….Intravenous
Kcal..... Kilo calorie
LBW…….. Low birth weight
LCTGS..... Long chain triglycerides
Lt..... Left

MUAC ..... Mid upper arm circumference
MCT…….. Medium chain triglycerides
MR..... Mitral regurge
NCHS……. National Center for Health Statistics
NPO……Nothing per os
NYHA…… …New York Heart Association
PD……Peritoneal dialysis
PDA ..... Patent ductusanteriorus
PEM……... Protein energy malnutrition
PN……Parentral nutrition
PS..... Pulmonary stenosis
RDA..... Recommended daily allowance
RNI…….. Recommended nutrient intake
REE ..... Resting energy expenditure
Rt ..... Right
RV..... Right ventricle
SD ..... Standard deviation
SFT……Skin fold thickness
SMA…….. Superior mesenteric artery
TAPVR…… Total anulous pulmonary venous return
TEE..... Total energy expenditure
TGA..... Transposition of great arteries
TOF ..... Tetrology of fallot
VSD..... Ventricular septal defect
WFA…….. Weight for age
WHO…….. World health organization

Introduction

Congenital heart disease (CHD) refers to any anatomic defect in the heart or major blood vessels that are present at birth ***(Smith, 2001)***. Cardiac abnormalities occur with an incidence of 8 per 1000 living births and represent 25% of all congenital malformations ***(Nemer et al., 2006)***. Congenital cardiovascular malformations present in any society with an enormous burden of grief and expenses. About 8% of all deaths during the first year of life are due to CHD and account for a third or more of infant deaths due to birth defects, more than that for any other congenital anomaly including neural tube defects ***(Bailey and Berry, 2005)***.

Growth in children with congenital heart disease (CHD) is often compromised, especially in those with either heart failure or cyanosis, and symptomatic infants are the worst to be affected ***(Venugopalan et al., 2001)***. Cardiac malformations are undoubtedly responsible for malnutrition. In some instances, the growth delay can be relatively mild, whereas in other cases, the failure to thrive can result in permanent physical or developmental impairment ***(Wheat, 2002)***. Malnutrition may then significantly undermine the outcome of corrective surgical operations and postoperative recovery ***(Forchielli et al., 1994)***.