ABSTRACT

BACKGROUND:

Hydrocephalus is a fatal disorder mostly affecting neonates and infants. It is treatable in pediatric patients but lacks a grading system for the severity of the disease. This paper proposes a grading system for hydrocephalic pediatric patients based on linear measurements applied on CT scan.

OBJECTIVES:

This study aims to determine average linear parameters of the hydrocephalus brain among pediatric patients by using CT scan, to propose a new grading system for hydrocephalus based on these linear measurements and to find the most common type and grade of hydrocephalus.

METHODOLOGY:

A cross sectional study was conducted on 37 pediatric hydrocephalus subjects in Abha.Five linear measurements FHR, FOHR, BFI, BCI and VI were applied on CT scan and generated a new grading system. Statistical analysis was done by SPSS (V-21) software. Also classifies the subjects by this system into grades of mild to severe and discovers the most common type and category of hydrocephalus.

RESULTS

The highest frequency is two years. The most common type was communicated and most common grades were mild and moderate. The mean measurements (reference value) in mm were found for FOHR=0.63, FHR=0.52, BCI=0.34, BFI=0.60 and VI=0.55. There was significant difference of linear parameters related to age groups.

CONCLUSION:

The grading system successfully divides pediatric patients into mild to severe categories, effect of age on each linear measurement can also be evaluated in

hydrocephalic patients and this grading can also be helpful to evaluate any mass effect like brain atrophy.

KEYWORDS:

Hydrocephalus, pediatrics, computed tomography.