COMPARATIVE STUDY BETWEEN BURRHOLE EVACUATION AND MINICRANIOTOMY IN THE SURGICAL MANAGEMENT OF CHRONIC SUBDURAL HEMATOMA

Ahmed Hafez Farhoud, Ahmed Abd-Elaziz Fayed, Mahmoud Aly Abbassy, Ahmed SaadAttia Hassan
Department of Neurosurgery Faculty of Medicine, University of Alexandria

INTRODUCTION

Nowadays chronic subdural hematoma (CSDH) is considered one of the most important neurosurgical concerns. Its incidence is increasing overtime may be due to increase life expectancy and increase usage of antiplatelet and anticoagulant medications. So it is expected that the incidence of CSDH will be doubled by the year 2030. Surgical management includes performing burr-hole(s) and minicraniotomy technique.

AIM OF THE WORK

The aim was to compare two surgical techniques burr-hole(s) and minicraniotomy in treatment of chronic subdural hematoma in terms of immediate complications, outcomes and early recurrence rate within 3 months

SUBJECTS AND METHODS

The study was a prospective randomized study conducted upon 47 cases of CSDH divided as follows 25 cases in burr-hole group and 22 cases in minicraniotomy group. The study was done in the departments of neurosurgery in Alexandria university hospital and Damanhour medical national institute from 1st September 2022 to 30 June 2023. All preoperative, intraoperative and postoperative data were collected and compared using appropriate statistical tests.

RESULTS

Table: Comparison between the two studied groups according to operation data

	Burr-hole (n=25)		Minicraniotomy (n=22)		Test of sig.	p
	No.	%	No.	%		
Operation time (min.)						
Min. – Max.	45.0 – 140.0		90.0 – 220.0		U= 42.500*	<0.001*
Mean ± SD.	77.0 ± 25.78		141.14 ± 38.33			
Median (IQR)	70.0 (60.0 – 80.0)		135.0 (110.0–170.0)			
Amount of blood loss (cc)						
Min. – Max.	75.0 – 400.0		150.0 – 700.0		U = 77.0*	<0.001*
Mean ± SD.	175.60 ± 83.71		340.91 ± 150.11			
Median (IQR)	150.0 (100.0–200.0)		300.0 (250.0–400.0)			
Receiving blood products	9	36.0	12	54.5	c^2=1.628	0.202
RBCs	7	28.0	9	40.9	c^2=0.869	0.351
Plasma	7	28.0	8	36.4	c^2=0.377	0.539

IQR: **Inter quartile range** SD: **Standard deviation** **U: Mann Whitney test**

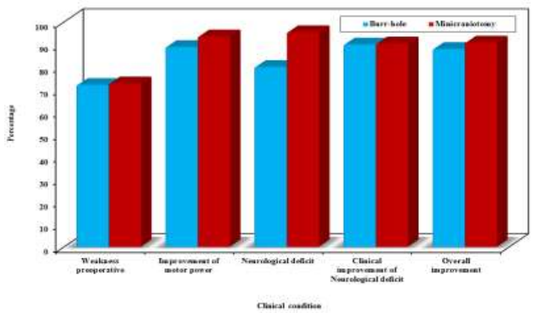

Figure1: Comparison between the two studied groups according to clinical condition (pre and postoperative)

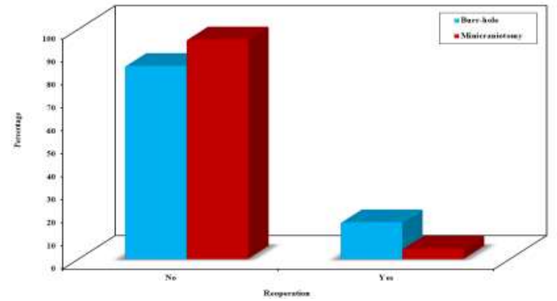

Figure2: Comparison between the two studied groups according toreoperation

CONCLUSION

We concluded that higher prevalence of CSDH among males than females. Also most of cases had history of previous trivial head trauma before diagnosis. We noticed that using anticoagulant and or antiplatelet increases risk of developing CSDH and risk of recurrence.
Regarding patient with bilateral hematoma they had a higher recurrence rate.
Intraoperative data Showed that operation time and blood loss were longer/more in minicraniotomy group than burr-hole group.
Postoperative data showed higher recurrence rate in burr-hole group than minicraniotomy group but it was still statistically insignificant.
Overall improvement occurred in about 89% of all cases with no significant difference between the two groups.