

## CHRONIC SUBDURAL HEMATOMAS (Clinical Analysis)

Dr. İsmail Hakkı AYDIN (x)  
Dr. Yunus AYDIN (x)  
Dr. Dursun AKDEMİR (xx)  
Dr. Hüseyin Erdem AK (xxx)  
Dr. İbrahim İYİĞÜN (xxxx)  
Dr. Yalçın YILIKOĞLU (xxxxx)

**KEY WORDS:** Chronic Subdural Hematomas, Burr-hole, craniostomy, closed system drainage.

### INTRODUCTION:

If diagnosed at the beginning and operated in time, chronic subdural hematomas (CSH) can have a very good prognosis. Extirpations or evacuation of CSH's, can be realised by the methods like punction of fontanella, burr-hole, external drainage through unclosed fontanella or burr-hole, internal drainage through peritoneal or cardiac shunt, twist-drill craniostomy, and capsul and hematoma resection with a large craniostomy (1,2,8,9).

Although different methods, were notified by various others to be more effective; closed drainage of hematoma through burr-hole is being suggested (8). Because CT has a part in following the events; twist-drill craniostomy is being considered lately (2,10,12).

---

(x) Asistantant Professor and, Deyartment of Neurosurgery. School of Medicine, Atatürk University Erzurum, Turkey.

(xx) Assistant Professor, Department of General Surgery, School of Medicine. Atatürk University Erzurum, Turkey.

(xxx) Resident, Department of Neurosurgery School of Medicine, Atatürk University, Erzurum, Turkey.

(xxxx) Chief resident, Department of Neurology. School of Medicine Atatürk University. Erzurum, Turkey.

(xxxxx) Associate Professor, Department of Neurology. School of Medicine Atatürk University) Erzurum, Turkey.

This paper waspresented at the 8 th European Neurosurgeon, Congress, Barcelona. SPAIN. 1987

## MATERYAL AND METHODS:

The material of our study consisted of 43 chronic subdural hematoma cases which were diagnosed and treated in the Department of Neurosurgery of Atatürk University, 11.6 % of the patients were women, and 88.3 % men. Of the patients 26, (60.4 %) were under 60 years of age where 17 of them were over 60. In 9 cases (20.9 %) bilateral hematoma was determined. All of the patients were operated by using burr-hole and closed external drainage.

## FINDINGS:

In 55.8 % of our cases head-trauma were determined and general mortality was found to be 32.5 %. The general characteristics of the cases is shown in table 1.

The distribution of symptoms is shown in table 11.

Table 11, represents the distribution of the findings in our cases.

The most frequent symptoms determined in our cases were unconsciousness, weakness in one side, headache and nausea and vomiting, 58.1 %, 51.1 %, 34.8 %, and 20.9 % respectively.

Table I: General characteristics of the patients.

	<u>Woman</u>	<u>Man</u>	<u>%</u>
Head trauma	5	19	55.8
Bilateral hematoma	2	7	20.9
Mortality	1	13	32.5

Table 11: Distribution of symptoms.

<u>Symptoms</u>	<u>Woman</u>	<u>Man</u>	<u>%</u>
Headache	2	13	34.8
Nausea and vomiting	2	7	20.9
Hemiparesis	3	19	51.1
Paraparesis	—	3	6.9
Hemiplegia	2	3	11.6
Urinary dysfunction	1	4	11.6
Unconsciousness	3	22	58.1
Seizure	—	2	4.6
Abnormal speech	—	4	9.3
Amnesia	—	1	2.3

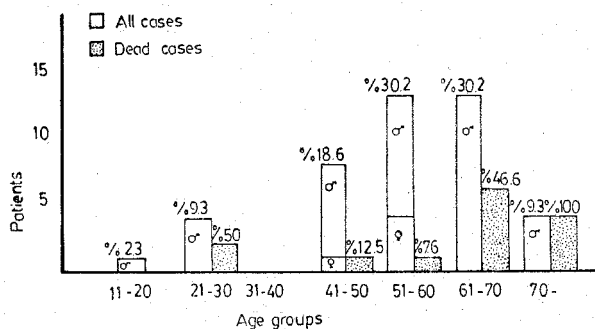
Table III: The distribution of the findings.

Findings	Woman	Man	%
Conscious	clear	4	13.9
	somnolans	12	30.2
	coma	17	44.1
Decortication rigidity	—	2	4.6
Decerebration rigidity	—	3	6.9
Hemiplegia	1	5	13.9
Hemiparesis	5	18	53.4
Paraparesia	—	1	2.3
Pathological reflexes	4	21	58.1
Midriasis	—	4	9.3
Aphasia	1	1	4.6
Frontal dysfunction	—	4	9.3
Papillary edema	2	4	13.9
Cerebellar findings	—	3	6.9
Nuchal rigidity	—	4	9.3

The most frequent findings were pathological reflexes, hemiparesia and coma 58.1 %, 53.4 % and 44.1 % respectively.

The living and dead cases into age groups is shown in Figure 1.

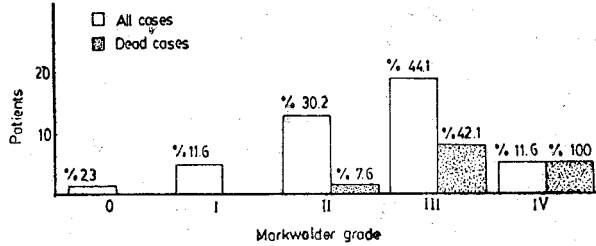
Fig.1. Distribution of the living and dead cases into age groups



In our study, as principle, we have accepted Markwalder's Classification on the clinical classification. In general the distribution of the patients according to this classification, and the groups of the dead cases are shown at the Figure 2.

Of our cases 19 were at grade 111, and 13 of them at grade 11. Only in one case no neurological deficit was seen. Unfortunately 5 patients at grade IV were all lost. However, all these patients had cardio-pulmoner problems.

Fig.2. Distribution of the patients according to Markwalder grading system



In the course of the postoperative check-ups, the clinical findings, the function of the drainage and if required angiography have been considered.

## DISCUSSION:

The findings and symptoms in chronic subdural hematomas were generally related to the symptoms of increasing pressure of the intracranial space. There were 72 % headache, 48 % mental symptoms, 28 % nausea and vomiting, 41 % papilledema, 24 % hemiparesia in the series of Kaste et al (8). However, in our series these were 34.8 %, 58.1 %, 11.6 % and 53.4 % respectively. In the cases of Cameron (3) the situation was as follows; 38 %, 30 %, 6 %, 6 %, and 40 %.

The chronic subdural hematomas show 10 % bilateral localisation. For this reason, during the operation both sides should be controlled. Otherwise, as a result of the distortions at the middle line structures and brain-stem, prognosis will probably get worse and mortality rate will be increased (6-7). In our cases the bilateral hematomas incidents were determined on 20.9 % CSH show rarely infratentorial localisation.

The interhemispheric localisation of the subdural hematomas's is informed in all literature as only 14 cases (5). In the treatment of the CSH's, there are several advices in the papers which as well advice to be conservative. However, they also advice closed drainage system because it is more convenient to the brain expansion (2, 8, 9, 11). Markwalder et al (9), informed that the first preferable system was twist-drill craniostomy with closed drainage, and they recorded that the mortality was informed to be 0.

The results obtained by the methods of burr-hole craniostomy and closed continuous drainage, with twist-drill craniostomy and catheter drainage have very close similarities (2). It has been indicated that Burchiel and Taylor applied twist-drill craniostomy with aspiration, but among 131 cases to whom they did not apply closed catheter drainage, a second operation was needed among the patients of 23 %. For this reason, the application of the closed drainage method is preferred (2,4,8,9,11).

We applied membrane fenestration opening burr-holes with general or local anaesthesia, according to the clinical situation of the cases, and closed continuous system drainage. We never tried craniostomy at any of our patients. At the end of the post perative second or third day drain was taken off.

It has been indicated that burr-hole techniques with postoperative mortality showed difference ranging from 0 % to 23 % (11). We are of opinion that, the higher mortality rate in our series, depends on the lack of (CT) computerised tomographic equipment and on the patients with the cardio-pulmonary problems and in poor neurological condition at admission.

#### **SUMMARY:**

In this study, 43 diagnosed and operated chronic subdural hematomas events analysed clinically in the Neurosurgical Department of Atatürk University Erzurum, Turkey.

60.4 % of the patients were found to be under 60 years of age. The most frequent findings were pathological reflexes, and hemiparesis at the rates of 58.1 %, and 50.4 % respectively. All of operations were performed using the burr-hole craniostomy and closed system drainage techniques.

#### **REFERANCES:**

- 1- Aoki N: Subdural tapping and irrigation for the tratment of chronic subdural hematoma in adults. *Neurosurgery* 14: 545-548, 1984.
- 2- Camel M and Grubb RL: Treatment of chronic subdural hematoma by twist-drill caraniostomy with continous catheter drainage. *j Neurosurg* 65: 183-187, 1986.
- 3- Cameron MM: Chronic subdural hematoma: a review of 114 cases. *j neurol Neurosurg Psychiatry* 41: 834-839, 1978.
- 4- Carlton CK and Saunders RL: Twist drill craniostomy and closed system drainage of cnronic and subaucute subdural hematomas. *Neurosurgery* 13: 153-159, 1983.
- 5- Fruin AH, juhl GL and Taylor C: Interhemipheric subdural hematoma. *j Neurosurg* 60: 1200-1302, 1984.
- 6- Kaste M, Waltimo -0 and Heiskonen O: Chronic bilateral subdural hematoma in adults. *Acta Neurochirurgica* 48: 231-236, 1979.
- 7- Kurti Xh, Xhumari A and Petrela M: Bilateral chronic subdural heatomas: Surgical or non-surgical treatment. *Acta Neurochirurgica* 62: 87-90, 1982.

- 8- Loew F: Management of chronic subdural hematomas and hygromas. In: Advances and Technical Standards in Neurosurgery (eds: Krayenbühl et al.) Vol 9 Springer-Verlag Wien New York 1982 pp. 113-1131.
- 9- Markwalder TM, Steinsiepe KF, Rohner M et al: The course of chronic subdural hematomas after burr-hole craniostomy and closed-system drainage. *J Neurosurg* 55: 390-396, 1981.
- 10- Ninchogi T, Uemura K, Shimoyama I et al: Traumatic intracerebrale hematomas of delayed onset. *Acta Neurochirurgica* 71: 69-90, 1984.
- 11- Richter HP, Klein HJ and Schafer M: Chronic subdural hematomas treated by enlarged burr-hole craniotomy and closed system drainage, retrospective study of 120 patients. *Acta Neurochirurgica* 71: 179-188, 1984.
- 12- Victoratos GC and Bligh AS: A more systematic management of subdural hematomas with the aid of CT scan. *Surg Neurol* 15: 158-160, 1980.