

ANNALES
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA
LUBLIN—POLONIA

VOL. XXXVIII, 37

SECTIO D

1983

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**The Immediate Results of Operative Treatment
in Supratentorial Gliomas**

Bezpośrednie wyniki leczenia operacyjnego glejaków nadnamiotowych mózgu

Непосредственные результаты операционного сечения глиобластомы
мультиформы

The immediate results of surgical treatment of gliomas are discussed by many authors (1—10). Although the ultimate solution of treatment of gliomas is the matter of future, nevertheless some factors as: better knowledge of glioma problems, achievements in the surgical technics and in neuroanesthesiology, also better knowledge of pre- and postoperative care, have a great influence on a progress in this field. J e l s m a and B u c y (5) reported that due to those factors, the postoperative mortality was significantly reduced, also the postoperative complications were much rare, and more patients were in satisfactory conditions after operation.

MATERIAL AND METHOD

Material consists of 71 patients operated because of supratentorial gliomas in the Department of Neurosurgery of Medical Academy in Lublin in the years 1973—1975.

The statistical significance was assayed by means of the tests: χ^2 and *t*-Student. Results with the risk error smaller than 5%, were regarded as statistically significant.

RESULTS

The results of surgical treatment were evaluated on the basis of the clinical state of patients on the day of leaving the hospital. In order to estimate the results objectively, a term "clinical state" was formulated.

It comprised a neurological condition of patients, their consciousness, general and subjective state and their speech. Not always changes in these functions were parallel. For that reason, in the evaluation of the clinical state of patients, the prevalence of changes of the above functions was considered in the order mentioned above.

Table 1 presents the results of surgical treatment in relation to particular functions. The best improvement was achieved in the subjective state of patients due to elimination of complaints — 55%, in none of the cases the complaints increased. The improvement in a general state of patients connected with improvement of breath, blood circulation and feeding, and also in a general psycho-motoric activity was achieved in 40.9% of cases. Lack of changes in a general activity was observed in 31%, whereas a decrease of this activity was noted in 5.6% of cases. The state of consciousness was improved in 43.7% of cases, no improvement was noted in 22.5%, while 11.3% were in worse condition.

Table 1. The immediate results of operative treatment

Immediate results	State of										Clinical state	
	complaints		general activity		consciousness		speech		motoric		n	%
	n	%	n	%	n	%	n	%	n	%		
Improvement	39	55.0	29	40.9	31	43.7	5	7.0	19	26.8	28	39.4
No change	16	22.5	22	31.0	16	22.5	43	60.6	29	40.8	22	31.0
Decrease	0	0	4	5.6	8	11.3	7	9.9	7	9.9	5	7.1
Death	16	22.5	16	22.5	16	22.5	16	22.5	16	22.5	16	22.5
Total	71	100.0	71	100.0	71	100.0	71	100.0	71	100.0	71	100.0

Lack of changes in the state of speech was observed in the majority of cases (60.6%). This was connected with a great percentage of operations carried out on the nondominant hemisphere for speech. Nevertheless, some decrease in the speech ability was noted in 9.9% patients. The improvement of this ability was achieved only in 7% cases.

The prevalence of the absence of changes was observed in the motoric state of patients (40.8%). The improvement was achieved in 26.8% patients, while in 9.9% cases the motoric state was worse. The changes of the clinical state reflected the total results of treatment. Lack of improvement which was due either to a stationary state after operation, decrease of condition or death, was found in 60.6%. The differences in the number of patients in which an improvement was achieved or not, were statistically not significant.

Table 2 reflects the dependence of the immediate results of operative treatment on some clinical factors. The preoperative clinical state did

not influence significantly the results of treatment. Nevertheless, in the majority of patients operated in a good preoperative state, condition after operation remained satisfactory. In the majority of patients in an average state before operation, an improvement in their condition was observed after operation. In patients operated in severe clinical state the highest postoperative mortality was noted.

Table 2. The immediate results of operative treatment and its dependence on some clinical features

Immediate results	Total		Preoperative clinical state			Completeness of resection		Extent of resection			Localiza-tion		Histopatho-logical sort		Aver-age age /years/	Average duration of symp-toms /months/
	n	%	good	aver-age	severe	total	par-tial	exten-sive	nar-row	super-ficial	deep	glio-astro-blastic-cto-tonajna				
improvement	28	39.4	2	17	9	12	16	18	10	14	14	16	12	49.4	3.4	
LACK of improvement	no change	22	31.0	15	4	3	7	15	10	12	10	12	13	9	43.8	5.3
	decrease	5	7.1	4	1	0	3	2	4	1	3	2	3	2	47.2	7.2
	death	16	22.5	6	5	5	1	15	5	11	4	12	9	7	47.8	10.8
significance p<	0.1		no significance			0.9	0.025	0.9	0.025	0.7	0.1	0.3	0.1	0.25	0.25	
number of patients	71	100.0	27	27	17	23	48	37	34	31	40	41	30	48.0	6.0	

The kind of operation had a statistically significant effect on the postoperative state of patients. A significant lack of improvement was found more often in patients after partial and narrow resection of gliomas.

The location of gliomas did not influence the results of treatment. Nevertheless, lack of improvement was found in deep gliomas. No dependence of the immediate results of treatment on the histopathological character of gliomas, age of patients, and the duration of symptoms was found.

The time of reaching the optimal clinical state, which would permit the patients to remain without a hospital care, was variable and ranged from 12 to 50 days. The average was 18 days.

DISCUSSION

Many authors (1, 8) consider the change in the clinical state of patients after operation in relation to their preoperative state, as an

immediate result of operative treatment. This criterion has been also used in the analysis of our material.

According to the literature (1, 8), an improvement of clinical state after surgical removal of gliomas occurred in 14—45% of cases.

As reported by others (1, 4), lack of clinical improvement in patients after operation was found significantly more often, than was improvement. Statistically nonsignificant prevalence of lack of improvement was found in our material. Jankowicz (4) claimed that in the case of patients with gliomas, one can only talk about the lengthening of life after surgical treatment.

A stationary clinical state of patients after operation was found in literature in 20—25% (1, 8), while worse condition was observed in 5% (8). The postoperative mortality in supratentorial gliomas ranged 15—45% of cases (2, 3, 5, 6, 7, 9). According to Bromowicz et al. (1), the average length of stay of patients in hospital was 2—4 weeks.

Conclusions

1. Lack of clinical improvement was observed more often in patients after operation of supratentorial gliomas, than was improvement.

2. A statistically significant lack of improvement was found more often in patients in who resection of gliomas was partial and narrow.

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Otrzymano 6 I 1983.

STRESZCZENIE

Dokonano analizy bezpośrednich wyników leczenia operacyjnego w odniesieniu do stanu neurologicznego, świadomości, mowy, ogólnego i subiektywnego oraz globalnego stanu klinicznego. Stwierdzono częściej występujący, lecz nieistotny statystycznie, brak poprawy niż poprawę stanu klinicznego chorych po leczeniu operacyjnym. Oceniono zależność wyników bezpośrednich od niektórych cech klinicznych. Stwierdzono statystycznie istotny częstszy brak poprawy u chorych, u których wykonano częściowe i oszczędne resekcje glejaków.

РЕЗЮМЕ

Проанализировано непосредственные результаты операционного лечения по отношению к неврологическому состоянию, сознанию, речи, общему и субъективному сознанию, а также к валовому клиническому состоянию. Установлено, что чаще выступает, статистически несущественный, недостаток улучшения, чем улучшение клинического состояния больных после операционного лечения. Определено зависимость непосредственных результатов от некоторых клинических черт. Установлено статистически существенный недостаток улучшения у тех больных, которые были подданы частичной и экономной резекции глиом.

