

Cognitive Outcome and Quality of Life after Aneurysmal Subarachnoid Haemorrhage - Part II: Quality of Life

Volume: 11 Issue: 02 July 1993 Page: 119-124

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Reprints request

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Abstract

Thirteen patients who were operated for aneurysmal subarachnoid haemorrhage (SAH) were prospectively studied (prospective study group) at regular intervals in the post-operative period. Quality of life was assessed in term of adjustments in occupation, social life, home life and emotional changes. The results were compared with 13 patients operated for aneurysmal SAH on an average 2 years earlier (retrospective study group), 11 patients of lumbar disc proplase (patient control group). About 50% of the prospective group and 75% of the retrospective study group had returned to work 3 months after surgery and 20% of either of the groups had changed occupation due to illness. The patients of both the study group had relatively better social outcome. Emotional changes were seen to be present as a major complaint in the anterior communicating and posterior communicating artery aneurysm patients.

Key words -

Subarachnoid Haemorrhage,

Cognition,

Quality of life,

Outcome

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There has been persistent efforts to improve on the morbidity of patients who survive the catastrophic event of rupture of an intracranial aneurysm and surgery for it. Recent studies indicate that thorough and careful examination in these patients can detect the impairment in cognitive functions [1], [2], [3], [4], [5], [6], [7], [8]. Along with the cognitive deficits, the quality of life after surgery and return to work are also considered important yardsticks of an outcome assessment [1]. The changes in quality of life can be assessed from the patient's pattern of life, social activities, hobbies etc. The relatives of the patient also detect emotional derangement, irritability, change in relationship with the spouse and

thus provide a valuable source of information [1].

The present study was carried out at National Institute of Mental Health & Neuro Sciences, Bangalore during the period 1988-1990, to detect:

- (i) The presence of neuropsychological abnormalities in patients who were operated for ruptured cerebral aneurysms and had no significant neurological deficits at discharge.
- (ii) To know the pattern and quality of life in these patients.

In a previous report (Part I), the results of the cognitive outcome have been analysed. This report highlights on the quality of life in the same patients.

Material and Methods

A) A prospective study was conducted between the following two groups:

- (i) Patient study group (Prospective): It comprised of 13 patients who were operated for aneurysmal subarchnoid haemorrhage, and had uneventful post-operative period. They were examined once at 6 months and once after 1 year.
 - (2) Patient control group: Eleven patients of prolapsed intervertebral disc disease, operated during the same period were taken as the control group. They were evaluated once at 3 months. Most of these patients were literate, the reason being that they were easily accessible for followup studies.
- B. Patients who were operated for aneurysmal subarachnoid haemorrhage, and were leading a normal life, were evaluated once, on an average 2 years from the date of surgery. They were grouped as retrospective study group.

Quality of life at 3-6 months and 6-12 months of operations were assessed in terms of adjustments in occupation, social and emotional life of the patient.

The following parameters as described by McKenna et al [1] were used.

Occupation: Change in employment, early retirement, reduction in working capacity.

Social life: Decrease in social activities, decrease in the contact involving the family and the relatives.

Home life: Any disturbance or a breakdown in relationship with the spouse or other members of the family.

Emotional changes: Increased irritability, depressive features, reduced spontaneous activity.

A structured interview schedule dealing with all the above factors was used to investigate the changes in quality of life. Special attention was paid to the relatives' interview which was designed to report the premorbid pattern of the patient's life. A detailed timetable of the average day was prepared, about how the patient had actually spent the time during each week in household activities. The informant gave the personality traits and hobbies at social and domestic level. Circumstantial factors other than the illness contributing to the above changes, if any, were noted carefully and were given due importance.

Observation and Results

The demographic analysis is presented in Table I and the breakup as per the aneurysm location in

Table II. The data regarding the return to work is presented in Table III. It was noted that majority of the patients returned to work between 1-6 months in all the groups, the control group returning earlier than both the study groups. Only one patient in either of the study groups had not gone to work at the end of the study period.

Table I - Demographic analysis

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Table II - Breakup as per aneurysmal groups

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Table III - Number of patients returning to work and the time of return after discharge

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Regarding the change of employment (Table IV), only two patients in the prospective study group and one in the retrospective group had changed employment due to the illness. Four patients of the former group and two of the latter group had changed occupation due to circumstantial factors other than the illness. None in the control group had reported any change of employment.

Table IV - Change of employment and cause

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Table V depicts the frequency of the patients found to be working at reduced capacity. Four in the prospective study group, two in the retrospective group and three in the patient control group were reported to be working at reduced capacity. None in the three groups, ascribed reduction in working capacity due to circumstantial factors.

Table V - Frequency of patients working at reduced capacity and factors for it

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In Table VI, the frequency of complaints at various stages of followup in the three groups is presented. Emotional liability, submissiveness, impatience, irritability and fearfulness were the major complaints in the study groups. Only two patients of the control group had impatience. Increase care by the relatives though not a complaint, was noted to be present in all the three groups.

Table VI - Quality of life: The various complaints at various stages of follow up in the three groups

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FU=Follow up

The daily routine (Table VII) was analysed in terms of three sub groups: active life, sedentary life and disturbed life. The majority had an active or sedentary life. Only one in each group had disturbed life. Most of the patients had good sleep between 7-10 hours/day. However, five patients of the prospective group had between 11-12 hours of sleep per day at the first followup which had not changed

significantly by the end of the I year study period. Only one in the prospective group and two in the retrospective group were sleeping for more than 12 hours per day.

Table VII - Quality of life: Daily routine and hours of sleep per day

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Social life (Table VIII) was analysed in terms of reduced contact or reduced social activities. None had reduced social contact while one each in the prospective and retrospective group had reduced social activities as elicited by the interview with the relatives.

Table VIII - Impairment in social life in the three group of patients

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Discussion

Quality of life and social outcome are reported to be impaired in patients with SAH. Vilkki et al [2] recently reported that twenty-five per cent of their patients had not returned to work at the end of one year followup. An equal number also had impaired social relations. About 56% had impairment in higher mental functions subjectively or as evidenced by clinical assessment. Sengupta et al [3] reported his series of 446 patients of aneurysmal SAH who were followed up for atleast a period of 6 months. Seventy-three per cent had returned to work, 12.5% were capable but unemployed and 14.5% were unfit for any employment. Four of the twenty-six of Bornsteins' patients [4] had not returned to work by the end of the study period. However, McKenna et al [1] comparing the aneurysmal SAH patients with acute myocardial infarction patients did not notice any difference in quality of life. 48% of the SAH group and 51% of the myocardial infarction group reported one or more symptoms of reduced quality of life. The total incidence of reduced quality of life in their patients of SAH solely attributable to the illness after one year was very small. They attributed this to the consideration of the circumstantial factors contributing to the debit of the quality life in their patients.

This study depicts that a significant number of patients in either group (7 out of 13 of the prospective group and 10 out of 13 of the retrospective group) had returned to work after three months of operation and one each in either group had not gone back to work. About 15% of the prospective group and 8% of the retrospective group had changed the occupation due to the illness; circumstantial factors accounted for the change of employment in 33% of the prospective group and 16% of the retrospective group. This is however, significant when compared to the patient control group all of whom were in the same occupation as before. Thirty three per cent and sixteen per cent of patients of prospective and retrospective groups respectively, were working at reduced capacity which was well comparable with 27% of control group patients.

Generalised weakness, emotional liability, submissiveness, irritability, aggressiveness and fearfulness were the major neuropsychological complaints of the study group patients while they were distinctly absent in the control group. Neuropsychological complaints were persisting in the retrospective group when assessed even after an average period of 2 years. These findings of the present study is comparable with those reported by Sengupta et al [5], Sonneson et al [6], Takaku et al [7] and Vilkki et al [8]. These authors have reported the presence of significant neuropsychological dysfunction when

assessing their patients of subarachnoid haemorrhage even after a period varying from one to several years. However, McKenna et al [1] did not detect any significant neuropsychological dysfunction in patients of SAH, when they compared them with a control group of acute myocardial infarction patients. They had ascribed the neuropsychological dysfunction to the presence of the diseases process itself than the brain dysfunction, as caused by SAH.

Considering the social outcome, all except one in either of the study group had returned to normal social life and were able to participate actively in the social functions. This suggests a promising outlook, when compared to those of Vilkki et al [2] who had detected occurrence of social dysfunction in 25% of his patients.

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