

Original Research Article

A Study on Incidence of Postoperative Delirium in a Tertiary Care Hospital**S. P. Logesvar¹, Dr. R. Baskaran², Dr. M. Asok kumar³, Dr. P. K. Govindarajan⁴**¹Prefinal MBBS, Rajah Muthiah Medical College, Annamalai Nagar, Tamil Nadu, India²Professor of Surgery, Rajah Muthiah Medical College, Annamalai Nagar, Tamil Nadu, India³Professor of Psychiatry, Rajah Muthiah Medical College, Annamalai Nagar, Tamil Nadu, India⁴Professor of Community Medicine, Rajah Muthiah Medical College, Annamalai Nagar, Tamil Nadu, India***Corresponding author**

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Abstract: All types of surgery both major and minor may cause anxiety, depression and delirium due to pain, immobilization and low socio economic status. Delirium or acute confusional state is an organically-caused decline from a previously attained baseline level of cognitive function. It is typified by fluctuating course, attentional deficits and generalized severe disorganization of behavior. Delirium is a syndrome encompassing an array of neuropsychiatric symptoms, including a disturbance in consciousness/attention and cognition that develops acutely and tends to fluctuate. This study was made to find out the incidence of postoperative delirium among surgical procedures and to find out any factors responsible for the event. Total 100 patients undergoing surgery was selected who were admitted in General surgery, Orthopedics, Obstetrics and Gynecology wards. All patients preoperatively have undergone screening for any psychological illness with mental health screening form. The patients free of preoperative psychiatric illness were included in the study. After the surgery there were assessed for a period of four days to find out delirium by using Neecham's Scale. Out of the study participants 61% were male and 39% were female. 47% were in the age group of 30 to 50 years. The incidence of postoperative delirium was 3%. All the event happened in male only. The delirium occurred only after orthopedic surgery. There is minimum percentage of incidence of delirium in major surgery and that also can be avoided with proper counseling and medications.**Keywords:** Delirium, immobility, major surgery, Neecham's scale.

INTRODUCTION

Surgery is a high-stakes stressor with possible consequences that include death, pain, disfigurement, economic losses, and alterations in social roles. Often, the most disturbing complications to surgeons and patients are psychological rather than physical[1]. Delirium (acute state of confusion) has become better studied, but is still only partially understood and significantly underestimated[2,3]. Each year delirium complicates hospital stays for more than 2.3 million older people, involves more than 17.5 million inpatient days, and accounts for more than \$4 billion of Medicare expenditure[4]. We undertook this study to assess the incidence of delirium among postoperative patients of general surgery, orthopedics, obstetrics and gynecological surgical specialties.

MATERIAL & METHODS

This study was conducted in Rajah Muthiah medical college and hospital at Chidambaram, Tamilnadu, India, during July 2015 to August 2015

after obtaining Ethical committee approval. Patients of age greater than 20 years and undergoing major surgery were included while who need intensive care and those with a previous history of psychiatric illness were excluded from the study. To exclude patients with psychiatric illness patients, they were screened using mental health screening form-III after obtaining informed consent. The mental health screening form-III is a questionnaire containing eighteen yes or no types of questions each points to a specific diagnosis[5]. Then those patients without any psychiatric illness were observed for a period of four days following the surgery. During this period, the patients were analyzed for delirium by using Neecham's scale. Neecham's scale is a confusion assessment tool consists of two parts confusion risk screen and the main scale. Confusion risk screen helps in identification of delirium using questionnaire formulated on the risk factors of the delirium. Those diagnosed with delirium were graded normal, not confused but at high risk, mild to early development of confusion and moderate to severe

confusion based on the main scale. Continuous data were expressed in terms of mean and standard deviation. Chi-square test was done to analyze the association of the educational status and type of anesthesia value less than 0.05 considered statistical significance.[6]

RESULTS

Out of 100 patients, 61% were males and 39% were females. The mean age of the patients was 41.83±11.80 years. Nearly 47% of the participants were

in the age group of 30 to 50 years as shown in Table 1. The incidence of delirium was 3% in this study. The problem has found out only in male. The postoperative delirium more in illiterate than literate and it is statistically significant as shown in Table 2. There was no statistical significant difference the duration of operation that is less 60 minutes surgery compared with above than 60 minutes. But there was statistical significance in type of anesthesia that is delirium was more in general anesthesia than spinal Table 3. The delirium was found more in the orthopedic surgery.

Table-1:Socio Demographic Profile of Study Population

VARIABLES	Frequency	Percentage (%)
SEX		
Male	61	61
Female	39	39
AGE		
20-29	17	17
30-39	28	28
40-49	19	19
50-59	23	23
60-69	09	09
>70	04	04
EDUCATION		
Illiterate	11	11
Primary	17	17
Secondary	53	53
Higher	19	19

Table 2-Association of education in postoperative delirium

Variable	Delirium present	Delirium Absent	Total
Illiterate	02	09	11
Literate	01	88	89
TOTAL	03	97	100

Chi-square value 4.8, P value 0.02

Table 3-Type of anesthesia with Delirium

Type of Anesthesia	Delirium present	Delirium Absent	Total
Spinal	00	72	72
General	03	25	28
TOTAL	03	97	100

Chi-square value 4.6, p value 0.03

DISCUSSION

The incidence of delirium among postoperative patients was 3% in this present study and it is little lower than 13.4% a study conducted by Masieh Abawi, BS *et al*[7] and another study by Edward R Marcantonio *et al*[8] found out the incidence of delirium in post operatively 9%. Among the various surgical specialties, the patients of the orthopedic surgery are more prone to delirium. This is due to decreased mobilization of the patients to prevent

malunion, pathological change and to prevent recurrence for example to prevent the incidence of new deformity after the correction of old one[9]. The incidence of delirium among the patients who received general anesthesia was significantly higher than those received spinal anesthesia. Through this study, it is again found the correlation between delirium and its risk factors including age over fifty years, orthopedic surgery (decreased mobility), general anesthesia,[10]. The limitation of the study is small sample size may

alter observation. There is minimum percentage of incidence of delirium in major surgery and that also can be avoided with proper counseling [11]

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