

Effect of Preoperative Anesthesia Counseling on Patient's Recovery after Surgery under General Anesthesia

Akanksha Agarwal¹, P.K. Bhattacharya², G.N. Chavan³

^{1,2}Associate Professor ³Professor and Head, Dept. of Anesthesiology, Chirayu Medical College & Hospital, Bhopal, Madhya Pradesh 462030, India.

Abstract

Preoperative anesthesia assessment visit (PAC) can be used as a golden opportunity for counseling of the patient posted for elective surgery, its effects are time-tested on better perioperative recovery. *Aims:* To assess anxiety level and its effects in perioperative period in patients undergoing surgeries under General Anesthesia, secondly to assess postoperative recovery status with respect to cooperation, sedative and analgesic requirement, and finally to assess effect of counseling on final postoperative recovery status. *Settings and Design:* PAC clinic of Chirayu Medical College and Hospital. *Methods and Material:* Sixty ASA grade 1/2 patients, age group 18-60 years, were randomized to 2 groups: study group receiving detailed anesthesia and surgery counseling during preanesthesia check-up (PAC) one day prior and on the day of surgery. Control group undergo through conventional method of counseling one day prior to surgery. Study group will be given verbal and written advice on anaesthetic and medical risk as part of the informed consent for anesthesia. Protocol of anesthesia will be same in both the groups. Both groups were given APAIS questionnaire at time of PAC, reassessed in immediate preoperative period. VAS along with vital parameters were recorded at PAC time and again in immediate preoperative period, and then in immediately post extubation and then after every 15 mins till 2hrs in recovery room. Patient's anxiety in postoperative period was assessed with APAIS after 12 & 24 hrs. Modified Aldrete Score was used to assess overall recovery of patients. *Statistical analysis used:* Statistical analysis was done using 'unpaired t test' with p value < 0.005 as significant, after calculating standard deviation (SD) and mean value of different parameters. *Results:* The level of anxiety was significantly low in study group as compared to control group in immediate preoperative as well as postoperative periods at various time intervals, as assessed by APAIS & VAS, though both scores were lower in both groups in postoperative periods as compared to PAC time. In both groups, difference in vital parameters, that is, pulse rate, blood pressure, SpO₂, was insignificant, at various time durations, although the decrease in pulse rate from the time of PAC to postoperative period, was more in study group. Aldrete score of 10 (out of 10) was achieved earlier in study group (p statistically significant) than in control group. *Conclusions:* This study shows that a proper elaborative verbal and written counseling at time of preanesthesia check up can alleviate patients' anxiety or stress, resulting in decreased morbidity and better outcome.

Keywords: Preoperative Anesthesia Counselling; GA; Outcome; PAC.

Introduction

A large proportion of patients experience substantial anxiety before surgery, prevalence ranging from 11% to 80% [1]. Anxiety can be described as an unpleasant state of uneasiness or tension, which may be associated with parasympathetic and endocrinal stimulation [2].

Preoperative anxiety has been found to increase

post operative morbidity, pain, hospital stay, and the need for postoperative analgesia and psychological support. It is also associated with decreased patient satisfaction with perioperative care, and reduces the quality of recovery. The aims and objectives of our study were to assess anxiety level before and after General Anesthesia, using The Amsterdam preoperative anxiety and information scale (APAIS), secondly to assess postoperative recovery status with respect to

Corresponding Author: Dr. G.N. Chavan, Professor and Head, Dept. of Anesthesiology, Chirayu Medical College & Hospital, Bhopal, Madhya Pradesh 462030, India.
E-mail: gcnny@gmail.com

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cooperation, sedative and analgesic requirement, using Visual Analogue Scale and vital parameters, and finally to assess effect of counseling on final postoperative recovery status before shifting out the patient from recovery room, using Aldrete Score.

Subjects and Methods

This study was conducted from March to May 2015, in a tertiary care centre of Central India after clearance from Institutional Research Committee .Sixty patients of either sex, posted for and undergone various surgeries under General Anesthesia were included in the study.

Inclusion criteria were patients aged 18 to 65, patients able to give informed consent and American Society of Anesthesiologists (ASA) grade 1, 2. Exclusion criteria were patients with cognitive impairments or psychiatric disorders, inability to give informed consent, ASA 3 or above, patients posted for surgery under Regional Anesthesia or for emergency operations.

Patients were randomized to 2groups: study group (S) received detailed verbal and written anesthesia counseling including anesthetic and medical risk, during PAC one day prior and on day of surgery, in their language (Hindi or English). Control group (C) underwent conventional method of counseling one day prior to surgery. Patients were explained about the type of study and their written consent were taken. Both groups were given APAIS questionnaire at time of PAC. VAS was also recorded at time of PAC along with vital parameters (pulse rate, blood pressure, SpO₂). APAIS is a six-question scale to assess anxiety about surgery and anesthesia, with range of 6 to 30, that is, No anxiety at all (1) to extremely anxious(6) [3].

The Amsterdam preoperative anxiety and information scale (APAIS)

Not at all 1 2 3 4 5 Extremely

1. I am worried about the anesthetic

1 2 3 4 5

2. The anesthetic is on my mind continually

1 2 3 4 5

3. I would like to know as much as possible about the anesthetic

1 2 3 4 5

4. I am worried about the procedure

1 2 3 4 5

5. The procedure is on my mind continually

1 2 3 4 5

6. I would like to know as much as possible about the procedure

1 2 3 4 5

APAIS, VAS and vital parameters were recorded again in immediate preoperative period. VAS & vitals were noted immediately post extubation and then after every 15 minutes till 2hrs in recovery room. Patient's anxiety in postoperative period was assessed with APAIS after 12 & 24 hrs. Modified Aldrete Score was used to assess overall recovery of patients and time required by patients in both groups to be discharged from PACU (score of 10) was noted.

Protocol of anesthesia was same in both groups.

Premedication: I.V Inj.Glycopyrollate 0.2mg, Inj. Midazolam 1mg, Inj Fentanyl 2mcg/kg,

Induction: I.V Inj Propofol 2.5-3mg/kg ,Inj Atracurium 0.5mg/kg i.v

Maintenance: O₂+N₂O+sevoflurane+inj. Atracurium

Reversal: Inj. Glycopyrollate 0.4mg+ Inj Neostigmine 2.5mg/kg IV.

Statistical analysis was done using 'unpaired t test' with p value<0.005 as significant, after calculating standard deviation (SD) and mean value of different parameters.

Results

Sixty patients, (M/F:15/15 in control group and 8/22 in study group) of ages between 18 to 65 years with mean of 34.96 years in control group and 38.13 years in study group, were included in the study. Same protocol of General Anesthesia was followed in all cases.

In both groups, difference in vital parameters, that is, pulse rate, blood pressure, SpO₂, was insignificant, at various time durations, although the decrease in pulse rate from the time of PAC to postoperative period, was more in study group (Figure 1).

The level of anxiety was significantly low in study group as compared to control group in immediate

preoperative as well as postoperative periods at various time intervals, as assessed by APAIS & VAS, though both scores were lower in both groups in postoperative periods as compared to PAC time. APAIS was high in both groups at time of PAC (23.4 v/s 22.63), but in immediate preoperative period, it decreased significantly in study group (10.93 v/s

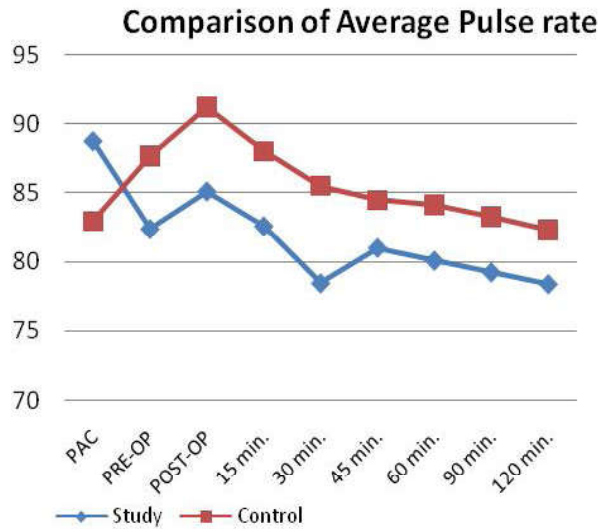


Fig. 1:

Comparison of Average APAIS

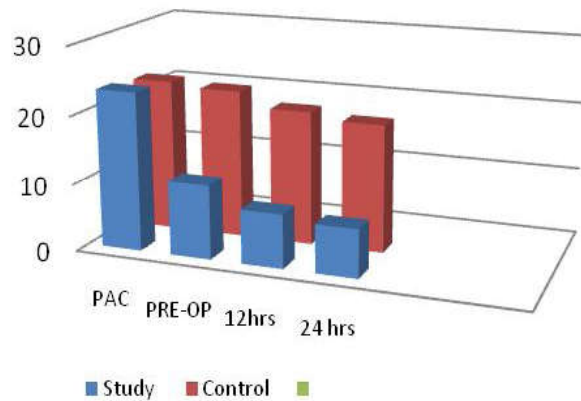


Fig. 2:

Comparison of Average VAS

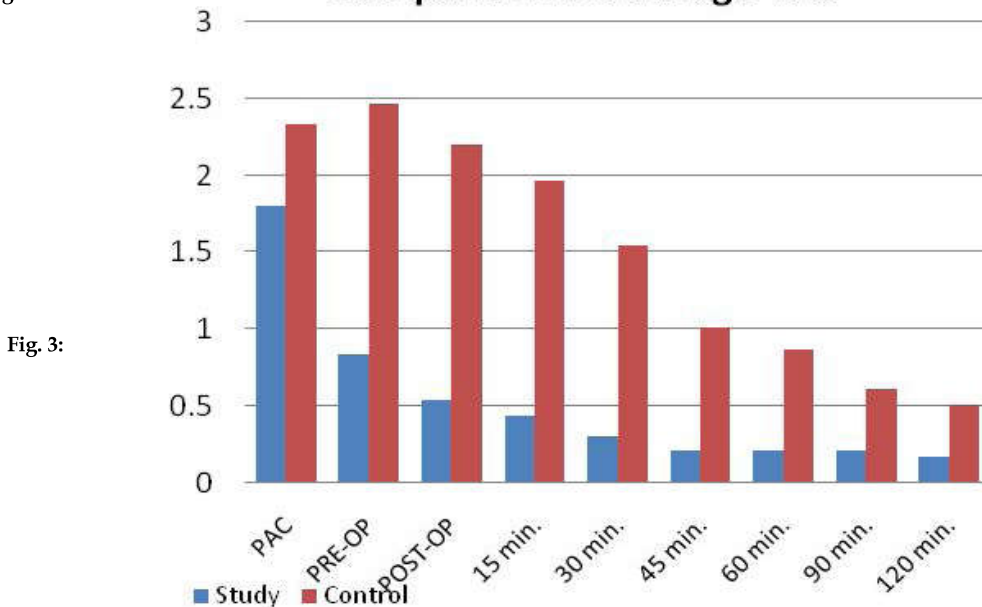


Fig. 3:

Table 1: ALDERETE SCORE

Time (mins)	Study group Pts	Control group Pts
30-60	37	4
61-90	10	14
91-120	3	12

22.03). It was also significantly low in study group after 12 and 24 hours of operation (7.93 v/s 19.86, 7.1 v/s 18.9) (Figure 2).

There was insignificant difference in VAS at time of PAC in both groups (1.8 v/s 2.33). VAS score was significantly low in study group in immediate preoperative (0.83v/s2.47), immediate postoperative (0.53 v/s 2.2), till 60 mins postoperatively. At 90 and 120 mins postoperatively, VAS was low in study group but it was not significant (Figure 3).

Aldrete score of 10 (out of 10) was achieved earlier in study group (p statistically significant) with mean of 47 +SD of 10.22 mins in study group and 93.5 + SD of 17.9 mins in control group (Table 1).

Discussion

For most of the patients, irrespective of age and sex, any surgical procedure is a stressful condition, associated with psychological effects such as anxiety and fear. In study by Akinsulone A et al [5] most common factors responsible for preoperative anxiety were fear of complications and result of the operation, the other causes being concern about family, fear for one's life and disability, postoperative pain, awareness during surgery. In our study, in control group, only the clinical status of patients and their fitness for anesthesia were assessed during PAC along with general information about anesthesia. But in study group, apart from clinical assessment, detailed verbal and written counseling of patients was also done, trying to relieve their anxiety and curiosity about anesthesia and procedure. Different scales are available to assess anxiety in patients. We have used The Amsterdam preoperative anxiety and information scale (APAIS), in addition to VAS (the Visual Analogue Scale). In study by Boker et al [3] they found APAIS as a promising new practical tool to assess preoperative patients anxiety levels, as compared to STAI (the State portion of the Spielburger State -trait anxiety inventory), in addition to VAS. We also found the APAIS to be a simple, quick and easy to understand scale.

In our study, we observed that APAIS was high in both groups at time of PAC (23.4 v/s 22.63) but in immediate preoperative period, it decreased significantly in study group (10.93 v/s 22.03). Anxiety score was significantly low in study group after 12 and 24 hours of operation (7.93 v/s 19.86, 7.1 v/s 18.9). A study by Dr Yeola et al [7], has found that preoperative patient education significantly reduces postoperative anxiety, pain and length of

hospital stay, and strongly recommends preoperative patient education for better outcome.

We also measured and compared vital parameters in both groups at time of PAC, immediate preoperative and postoperative time followed by different time intervals postoperatively till 2 hours. There was decrease in pulse rate in both groups, but when compared in both groups, it was insignificant statistically, but a study by Kim W et al [4] evaluated whether level of preoperative anxiety assessed by STAI affects cardiovascular response during anesthesia induction, and evaluated the utility of preoperative anxiety scale as a predictive factor for hemodynamic changes. They concluded that the state anxiety scores of patients 45 years of age or above could be a useful tool for predicting changes in vital signs. We also recorded time required by patients to be discharged from postoperative recovery room to their wards or rooms, assessed by Aldrete score. It was achieved earlier in study group (with mean of 47 +SD of 10.22 mins in study group and 93.5 + SD of 17.9 mins in control group.). But studies supporting this outcome are negligible. Long term and bigger studies are required to confirm and established the effect of preoperative counseling on full and early recovery of patients.

Conclusion

Anxiety during perioperative period is pretty common. This study shows that a proper verbal and written elaborative counseling at time of preanesthesia check up can alleviate patients' anxiety or stress, resulting in decreased morbidity and better outcome

References

1. P Akkamahadevi, VV Subramanian : The efficacy of different methods of pre-operative counseling on perioperative anxiety in patients undergoing regional anesthesia: Indian Journal of Anesthesia 2016 Jan;60(1).
2. Javed M, Mushtaq A, Mukhtar S, Khan Z. Preoperative anxiety before elective surgery: Neurosciences 2007;12(2).
3. Boker et al. The Amsterdam preoperative anxiety and information scale provides a simple and reliable measure of preoperative anxiety: Can J Anesth 2002;49(8):792-798.
4. Kim W et al. Availability of preoperative anxiety scale as a predictive factor for hemodynamic changes

- during induction of anesthesia: Korean J Anesthesiol 2010 Apr;58(4):328-333.
5. Akinsulore A et al. Assessment of preoperative and postoperative anxiety among elective major surgery patients in a tertiary hospital in Nigeria: M.E.J ANESTH 2005;23(2).
 6. Homzova P et al. Measuring preoperative anxiety in patients undergoing elective surgery in Czech Republic: Cent Eur J Nurs Midw 2015;64(4):321-326.
 7. Dr Yeola M et al. Effect of Pre-Operative Counselling on Post-Operative Outcome in Hernia Surgery Patients: IJSR/ISSN(Online): 2319-7064.
 8. AAGBI SAFETY GUIDELINE: Pre-operative Assessment and Patient Preparation: The Role of the Anaesthetist. Jan 2010.
 9. ESH Ng, CH Sia, A Pathmanathan, EHC Liu. Fears that preoperative patients have of general anesthesia: NUHS.
 10. Grimaldo DA, Wiener-Kronish JP, Jurson T, Shaughnessy TE, Curtis JR, Liu LL. A randomized, controlled trial of advanced care planning discussions during preoperative evaluations.: Anesthesiology 2001; 95(1):43-50.
 11. Tan CS, Mahmood U, O' Brien PD, Beatty S, Kwok AK, Lee VY, Au Eong KG. Visual experiences during vitreous surgery under regional anesthesia: a multicenter study. Am J Ophthalmol. 2005 Dec;140 (6):971-975.
 12. Voon LW, Au Eong KG, Saw SM, Verma D, Laude A. Effect of preoperative counseling on patient fear from the visual experience during phacoemulsification under topical anesthesia: Multicenter randomized clinical trial.: J Cataract Refract Surg. 2005 Oct;31(10): 1966-9.
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