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Original Research Article

A questionnaire research on the practice of postoperative anaesthetic visits

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ABSTRACT

Introduction: As early as in 1934 the idea and relevance of post anesthesia visits have been implemented, with the recommendation that anesthesiologists should follow up i.e.; visit their patients regularly in the first two days after surgery to obtain information about the patient's condition. Sparse literature exists regarding the importance of post anaesthesia visits, currently there are no studies done on how post anaesthesia visits are performed and documented. To find a solution for these issues, we had conducted a questionnaire research on the practice of post anesthesia visits among anaesthesiologists.

Study Objectives: The aim of this study is to know whether anesthesiologists does regular post operative anaesthesia visits and to know the importance of post anaesthesia visits.

Materials and Methods: A validated; self-reported electronic questionnaire was used to collect the data from a total of 80 anaesthesiologists who willfully participated in the study. The questionnaire generated using Google forms was sent to consultant as well as resident anaesthesiologists including free-lance practitioners through electronic mail.

Results: 90% of the participants were resident anaesthesiologists and the rest were consultants. 93.8% of the responders reported that post anaesthesia visits are mandatory at their work place. 91.3% of the participants significantly anaesthetize up to 4 cases on an average per day ($p<0.001\%$). Most of the responders (93.8%) had responded that Post Anesthesia Visits is mandatory in their workplace and documentation of post anaesthesia visits are done mostly in the pre anaesthetic evaluation sheets. Post anaesthesia visits for all high-risk cases on daily basics shows a significant p value ($p<0.001\%$). Daily post anaesthesia visits for all cases on the evening on the day of surgery ($p<0.047\%$) for all cases anaesthetize by the responders for a minimum duration of 10 minutes per patient shows the significant p value ($p<0.028\%$).

Conclusion: Post anaesthesia visits are done on a daily basis and documented in pre anaesthetic evaluation sheets or daily progress charts helps in detecting adverse effects related to anaesthesia procedure.

1. Introduction

As early as1934, the idea and relevance of Post Anesthesia Visits (PAV)s have been implemented, with the recommendation that anesthesiologists should follow up ie; visit their patients regularly in the first two days after surgery to obtain information about the patient's condition.[1] Although there are many kinds of literature suggesting life-threatening complications due to both general and regional anaesthesia techniques, in today's textbooks of anesthesia, this element of perioperative care is mostly neglected.[2] The perfect time for post-anesthesia visits (PAV) is 12 to 24 hours after surgery was suggested. To determine patient satisfaction post-surgery multiple questionnaires have to be implemented. However, the strong predictors of patient satisfaction are "receiving information" and 'feeling safe'.[3] According to "The American Society of Anaesthesiologists", it is a responsibility of an

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anaesthesiologist to conduct postanesthetic evaluation and detect any adverse effects related to anaesthesia and treat the same. Sparse literature exists regarding the importance of PAV, currently, there are no studies done on how PAVs are performed and documented. To find a solution to these issues, we conducted questionnaire research on the practice of PAV among anaesthesiologists. The primary objective of the study is to know whether anaesthesiologists do regular postoperative visits and whether PAV helps in the detection of any postoperative complications.

2. Materials and Methods

2.1. Study type and setting

This is a prospective observational questionnaire based study conducted at a tertiary care centre after obtaining institutional ethical committee clearance (IEC no. DMC/KLR/IEC/98/2022-23).

2.2. Study participants

Consultant and resident anaesthesiologists.

2.3. Study duration

Six months (February 2022 to July 2022).

2.4. Sample size determination

The sample size was estimated with the return rate of 30% from the study done by Schiff JH et al, with error of 10% at confidence interval with the sample size of 80.

2.5. Study tool and data collection

A validated; the self-reported electronic questionnaire was used to collect the data from a total of 80 anaesthesiologists who willfully participated in the study. The process of validation was performed in the Department of Anaesthesiology, SDUMC, using a standardized model of cognitive pretesting. The questionnaire generated using Google forms, consisted of data related to profession, experience, mandatory PAV, and detection of adverse events during PAV (Table 1) and was sent to the consultant as well as resident anaesthesiologists working in various medical institutes in South India, including free-lance practitioners through electronic mail. A response to a filled google form was considered as a willingness to participate in the study.

2.6. Statistical analysis

After checking the completeness of the data, it was entered in Microsoft excel and analysed using statistical software SPSS 22.0 and R environment version 3.2.2. The descriptive data were expressed in frequency and percentage. Descriptive and inferential statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean ± SD (Min-Max) and results on categorical measurements are presented in Number (%).

3. Results

A total of 80 responses received were analyzed (Diagram 1). 90% of the participants were resident anaesthesiologists and the rest were consultants (Figure 1). Only 2.5% of the study participants were free-lance anaesthetists and the rest were working in institutes. 93.8% of the responders reported that PAV is mandatory at their workplace. 91.3% of the participants significantly anaesthetize up to 4 cases on an average per day. Most of the responders (93.8%) had responded that PAV is mandatory in their workplace and documentation of PAV is done mostly in the PAE Sheets (Pre Anaesthetic Evaluation) (Table 2). PAV for all high-risk cases (63.8%) was done on daily basis (90%) during the evening on the day of surgery (83.8%) for the cases anaesthetize by the responders for a minimum duration of 10 minutes per patient (95%). Almost all the responders (96.3%) felt PAV plays a very important role in detecting any adverse effect related to anaesthesia.

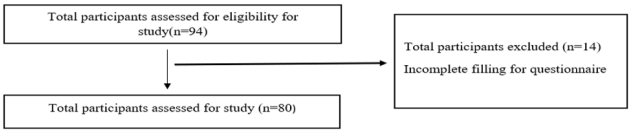

Diagram 1: Consort flow diagram

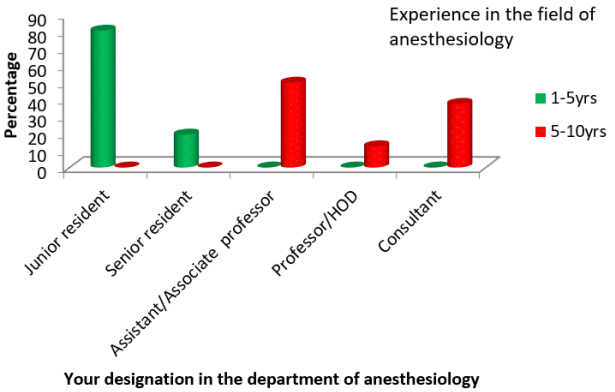

Fig. 1:

4. Discussion

Based on our present study PAVs are conducted for the majority of high-risk and major cases which require postoperative mechanical ventilation. The majority of

Table 1: Questionnaire analysis on PAV

Variables	Experience in the field of anesthesiology		Total
	1-5yrs	5-10yrs	
How many number of cases you anaesthetize each day on the average			
Upto 4 cases	72(100%)	1(12.5%)	73(91.3%)
5- 10 cases	0(0%)	7(87.5%)	7(8.8%)
11-15 cases	0(0%)	0(0%)	0(0%)
Is post anaesthesia visits are mandatory in your work place			
Yes	68(94.4%)	7(87.5%)	75(93.8%)
No	4(5.6%)	1(12.5%)	5(6.3%)
How did you record post anaesthetic visits			
PAE sheet	55(76.4%)	6(75%)	61(76.3%)
Daily progress chart	11(15.3%)	2(25%)	13(16.3%)
Ward rounds book	6(8.3%)	0(0%)	6(7.5%)
Cross consultation sheet	0(0%)	0(0%)	0(0%)
Total	72(100%)	8(100%)	80(100%)

Table 2: Questionnaire analysis on PAV

Variables	Experience in the field of anesthesiology		Total
	1-5yrs	5-10yrs	
How often do you visited post anesthetic visits last year			
Daily	72(100%)	0(0%)	72(90%)
Weekly twice	0(0%)	8(100%)	8(10%)
Less than once a week	0(0%)	0(0%)	0(0%)
How long did you stay with the patient if you visit the patient			
10 min	70(97.2%)	6(75%)	76(95%)
10 to 15 min	1(1.4%)	2(25%)	3(3.8%)
More than 15 min	1(1.4%)	0(0%)	1(1.3%)
When you will schedule to visit post anesthetic patients			
During working hours	8(11.1%)	3(37.5%)	11(13.8%)
Evening on the day of surgery	63(87.5%)	4(50%)	67(83.8%)
No fixed hours	1(1.4%)	1(12.5%)	2(2.5%)
Never visits	0(0%)	0(0%)	0(0%)
What kind of patients would you prefer to visit post anesthesia			
All cases	24(33.3%)	1(12.5%)	25(31.3%)
High risk cases	48(66.7%)	3(37.5%)	51(63.8%)
Major cases which needed post aesthetic ventilation	0(0%)	4(50%)	4(5%)
How important post anesthetic visits to you			
Not necessary	3(4.2%)	0(0%)	3(3.8%)
Very important	69(95.8%)	8(100%)	77(96.3%)
Irrelevant	0(0%)	0(0%)	0(0%)
Completely irrelevant	0(0%)	0(0%)	0(0%)
Have you ever detected any adverse effects related to anesthesia during your post anesthetic visit			
Yes	72(100%)	8(100%)	80(100%)
No	0(0%)	0(0%)	0(0%)
Total	72(100%)	8(100%)	80(100%)

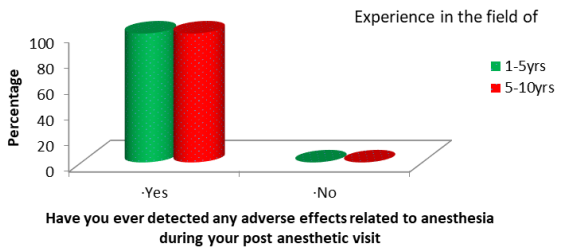

Fig. 2:

responders are junior residents, who are working in teaching hospitals in which post anaesthesia visits are mandatory, while responders who are doing freelancing are not having mandatory post anaesthesia visits. Most of the PAVs are conducted for 10 mins per patient during the evening on the day of surgery after regular hospital working timings on daily basics and records of PAVs are documented in the PAE sheet.

Almost all responders felt the fact that they had detected some adverse effects related to anaesthesia during PAVs and also believes that PAVs could help in reducing complications related to regional and general anaesthesia techniques.

Since the type of complications which can occur after anaesthesia is not defined in our study, we had taken references from previous studies. Foss and colleagues described that hypotension, postoperative nausea, and vomiting (PONV), shivering, pain due to analgesia insufficiency, Post Dural Puncture Headache (PDPH), urinary retention, allergic reactions to anesthetic agents, epidural catheter displacement are some of the most common complications that can happen after the patient undergoes anesthetic procedure.[4]

According to Bajwa SJS et al., detecting complications assists the anesthesiologist in providing necessary treatment while also assuring the patient's well-being and reducing the patient's anxiety. Without PAVs, there is a high risk of missing complications such as motor / sensory deficiencies after regional anaesthesia or anticholinergic symptoms after general anaesthesia, which could lengthen the hospital stay and increase the financial burden for the treatment.[5]

As our study indicates the majority of PAVs are done on the same day on the evening of surgery, and there is a high chance of detecting common complications and treatment of the same. Some of the complications that were observed are postoperative vomiting, urinary retention, vocal cord paralysis, allergic reactions, hypotension.

According to a study conducted by Capuzzo M et al., direct face-to-face interviews and examinations of each patient who received anesthesia during PAVs provide greater patient satisfaction and make the patient feel safe.[3]

The quality of PAVs is more important than quantity (number of visits). Based on one previous pilot study, regular quality PAVs significantly reduced the need for analgesia medication requirement in postoperative period.[6]

Fink T et al., described that PAVs are performed by only a small number of anaesthesiologist due to time constraints. Implementation of changes in the level of hospital organization helps in conducting PAVs on regular basics, thus helping in detecting postoperative complications and decreasing postoperative hospital stay.[7] The development of universal guidelines and protocols for PAVs is required to improve patient outcomes and detect and follow up on mild symptoms that can lead to life-threatening complications.[8]

Our study has a few limitations such as a smaller sample size, risk of recollection bias from the respondents as it is a self-reporting questionnaire-based study, details regarding the type of adverse effects noted have not been elicited and lastly the mortality/major morbidity associated with anesthesia was not estimated.

Other limitations affecting the scope of our study include the fact that the majority of respondents are junior residents with less than 5 years of work experience, with the majority working in teaching hospitals. As a result, we lack proper data on how PAVs are performed by senior consultants, most of whom work in corporate settings or freelance.

5. Conclusion

We conclude that the majority of respondents perform PAVs daily and PAV helps in the detection of postoperative complications. However, instead of residents, PAV should be done by experienced anesthesiologists for better detection of complications.

6. Source of Funding

None.

7. Conflict of Interest

None.

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