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Utilization of preanaesthetic medications used in different surgical procedure in Tertiary Care Hospital, Telangana

Sanjeevkumar Munoli[1], Patwadi Ajay Kumar[1,*] and D Nagarjuna[1]

[1] General Surgery, Mahavir Institute of Medical Sciences, Vikarabad, Telangana-501102, India.
* Correspondence: docajaypatwadi@gmail.com

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Abstract: Introduction: Preanaesthetic medicaments are the drugs used before surgery procedure. They are one or more drugs can be used in several reasons. Drugs used to, control pain, gastric secretion and anxiety. The main aim of the study is to analyze the serious preoperative complications and pre anaesthesic drugs used in different surgical procedure in tertiary care hospital.
Aim: To study the utilization of preanesthetic medications used in different surgical procedure in tertiary care hospital.
Material & Methods: The cross-sectional study was conducted after taking permission from institution ethical committee permission. Data was collected retrospectively from inpatient ward those who have undergoing surgeries in the Department of General Surgery, Orthopaedics, Obstetrics, and Gynecology. The collected data was analyzed using SPSS software version 21.
Results: the study was conducted on 386 patients undergoing surgery in different specialties. Majority of the patients were male from general surgery department. Total of 386 patients, 169 patients showing symptoms before surgery and reduce to 74 patients one week after surgery. Increased in HR, anxiety was observed in majority of the patients. Esmolol is the drugs showing significant improvement in HR, SBP & DBP ($p < 0.005$) respectively.
Conclusion: Alprazolam and esmolol was most commonly used preanaesthetic mediation in patients undergoing surgery in different departments.

Keywords: Preanaesthetic medication; Nausea and vomiting; Alprazolam.

1. Introduction

Every year worldwide, approximately more than 310 million operations are performed [1], among them more than 200 million patients underwent major surgery [2]. Pre-anesthetic medications are the drugs used before administration of an anesthetic agent [3]. Introduction of such medication play the key role for improvement in the quality of health by counteracting stress and fear of surgery [4,5].

During the surgical procedure, almost 1/3rd of the surgical patients receive general anaesthesia they experience postoperative nausea and vomiting [6]. Pain is the second most compliant mostly observed in post-operative ward. PONV, incidence rate was observed in 70 - 80% of patients [7] to improve post operative nausea and vomiting several new drug has been used, significance reduction was seen to 30 - 35% [8]. This drugs can also been used in combination also [9–14].

In these cases there are different classes of drugs that may bring blood pressure normal. Drugs such as I.V lidocaine, vasodilators, adrenergic blockers, narcotics and inhalational anaesthetics [15]. Fentanyl, narcotic drug shows its action by controlling heart rate and blood pressure, but it may also cause respiratory depression and rigidity in some cases. Vasodilators and lidocaine shows its action by controlling blood pressure but no change in heart rate. Another drug esmolol, ultra-short action beta 1 adrenergic blocker and it is also called as cardioselective beta blockers shows rapid onset of action. On I.V injection of esmolol shows improvement in heart rate in one minute and blood pressure within two minutes. In some studies, infusion of esmolol is efficacious in controlling tachycardia and hypertension and it may also reduces the risk of MI during bypass surgery [16].

2. Material and Methods

2.1. Sources of Data Collection

The present was conducted in department of surgery in association with departments of orthopedic and OBG, at Mahavir institute of medical sciences, Vikarabad, Telangana. The present study was carried out after taking permission from institutional ethical committee.

2.2. Study type

Randomized, prospective, cross sectional study.

2.3. Sample Size

386 patients undergoing surgeries from different specialties

2.4. Inclusion criteria

- Patients of both the sexes.
- Age group from 18 to 68 years.
- Patients ready to give inform consent form

2.5. Exclusion criteria

- Pregnant and lactation women.
- Patient below 18 years
- Patients not ready to give inform consent form.
- Major surgery.

2.6. Methodology

A written informed consent was taken from patients or patient's attainder form participating in the study. A total of 386 patients was included in the study of both sex. All the patients was given preanaesthetic medication containing Alprazolam, Ketorolac, Pantoprazole, Ondensetron, Ranitidine, Tramadol, Diazepam, Glycopyrrolate, Promethazine and Esmolol was given to the patients before surgery. At the first stage all the patients, blood pressure, heart rate was noted before and two weeks after surgery in esmolol injected patients.

2.7. Statical analysis

statistical analysis will be done by using SPSS software, test done will be paired t test, unpaired t test and anova. p value less than 0.05 will be coincided has a statically significant and p less than 0.005 is highly significant.

3. Results and Discussion

A total of 386 patients undergoing surgery there inform consent form was taken. In the present study majority of the patient was male (71.24%) followed by female (28.75%) respectively. 73.05% patients was form general surgery, 18.65% form orthopedics and 08.29% form gynecology departments. Different surgeries was conducted on different specialties department, majority of patients underwent surgery of Appendicitis 10.88%, followed by inguinal hernia (8.29%), fracture of lower limb & Chronic ulcer (7.25%), Hydrocele (6.99%), fracture of upper limb (5.69%), Varicose veins (4.92%), Phimosis (4.66%), Abscess (4.04%), gangrene of legs & granuloma (4.14%), carcinoma of breast (3.88%), uterine bleeding (3.10%), torsion of tests & thyroid nodules (2.59%), ovarian cyst (2.33%), chronic cervicitis, dislocation of joints, fibroma, cervical lymphadenopathy & epigastric hernia (2.07%), cellulites (1.55%), prolapsed of uterus, carcinoma of endometrial, & ganglion (1.03%), Hemorrhoids (0.77%) and tendon injury & epididymis cyst (0.51%) respectively (Table No 03). As per the symptoms after appear before surgery, among total of 386 patients, 169 patients showing symptoms before surgery, 44 patients shows Anxiety followed by pain (26), increased HR (22), nausea & increase SBP (16), fatigue (14), vomiting (12), increased respiratory rate (11) and increased DBP (8) one week after surgery reduction in number of patients with symptoms i.e total of 74 patients showing Anxiety (21), pain (18),

Table 1. Tabular column represents the differentiation in gender of patients undergoing surgery

Gender	No of patients	% No of patients
Male	275	71.24%
Female	111	28.75%
Total No of Patients	386	100.00%

Table 2. Tabular column represents the distribution of patients in various surgical specialties

Different specialties	No of patients in different specialties	% No of patients in different specialties
General surgery	282	73.05%
Orthopaedics	72	18.65%
Gynecology	32	08.29%
Total No of patients	386	100.00%

increased HR (12), nausea (6) increase SBP (4), fatigue (8), vomiting (0), increased respiratory rate (5) and increased DBP (0) showing significant mean reduction between before and after surgery ($p<0.05$) (table No 04). Preanaesthetic drugs has to be given to the patients before surgery to reduce symptoms appear before surgery, drugs most commonly prescribed was Alprazolam (18.91%) followed by tramadol (13.73%), esmolol (12.95%), Promethazine (12.43%), Ketorolac (12.17%), diazepam (10.10%), pantoprazole (09.58%), ranitidine (06.73%), Ondensetron (02.33%) and Glycopyrrolate (01.03%) respectively (table No 05 & figure No 01). Total of 50 patients taken injection of esmolol there heart rate, SBP & DBP was measure, before surgery the mean HR was 84.24 ± 1.86 after one week of surgery mean reduction was 72.36 ± 1.42, SBP 138.26 ± 2.42 after surgery 126.36 ± 1.86 and DBP 100.14 ± 3.46 after surgery 82.14 ± 1.42 all the parameters shows significant mean reduction in HR, SBP & DBP ($p<0.05$) (table No 6 & figure No 02). Study conducted Pandita et al. [16] concluded that Ondensetron and tramadol was most commonly prescribed preanaesthetic medication in patients undergoing exploratory laparotomy. Another study by Shah et al. [18], He concluded that midazolam, pethidine, Glycopyrrolate and Ondensetron was most commonly used drugs in his study, he also observed that nausea and vomiting was observed before conduction of study

4. Conclusion

preanaesthetic medications was used before surgery, mostly commonly used drugs was Alprazolam, esmolol, tramadol and anxiety, nausea and vomiting was most commonly observed postoperative symptoms.

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Conflicts of Interest: "Authors declare no conflict of interests."

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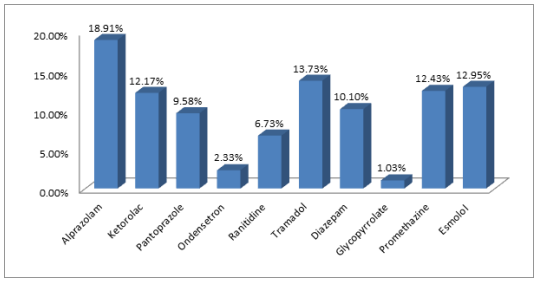

Figure 1. Graphical representation of percentage number of preanaesthetic medication used in different surgical procedure

Table 3. Tabular column represents the multiple surgeries in surgical department

Surgical condition	No of patients in different condition	% No of patients in different condition
Appendicitis	42	10.88%
Fibroma	08	2.07%
Inguinal hernia	32	8.29%
Cellulites	06	1.55%
Cervical lymphadenopathy	08	2.07%
Fracture of lower limb	28	7.25%
Uterine bleeding	12	3.10%
Fracture of upper limb	22	5.69%
Epigastric hernia	08	2.07%
Abscess	17	4.40%
Thyroid nodule	10	2.59%
Hemorrhoids	03	0.77%
Torsion of testes	10	2.59%
Prolapsed of uterus	04	4.03%
Chronic ulcer	28	7.25%
Varicose veins	19	4.92%
Carcinoma of endometrial	04	4.03%
Tendon injury	02	0.51%
Carcinoma of breast	15	3.88%
Gangrene of leg	16	4.14%
Chronic cervicitis	08	2.07%
Epididymal cyst	02	0.51%
Ovarian cyst	09	2.33%
Ganglion	04	1.03%
Granuloma	16	4.14%
Dislocation of joints	08	2.07%
Hydrocele	27	6.99%
Phimosis	18	4.66%
Total No of Patients	386	100.00%

Table 4. Tabular column represents the symptoms seen before surgical procedure

	No of patients having preoperative symptoms	Before surgerical procedure	Two week after surgical procedure	P value
Pain	26	26	18	P<0.005
Nausea	16	16	6	
Fatigue	14	14	8	
Vomiting	12	12	0	
Increased HR	22	22	12	
Increased SBP	16	16	4	
Increased DBP	8	8	0	
Anxiety	44	44	21	
Increased Respiratory rate	11	11	5	
	169	169	74	
Total no of patients having symptoms	386			

Table 5. Tabular column represents the number of preanaesthetic medication used in pre-surgical procedure

Drugs	No of patients taken drugs	% No of patients taken drugs
Alprazolam	73	18.91%
Ketorolac	47	12.17%
Pantoprazole	37	09.58%
Ondensetron	09	02.33%
Ranitidine	26	06.73%
Tramadol	53	13.73%
Diazepam	39	10.10%
Glycopyrrolate	04	01.03%
Promethazine	48	12.43%
Esmolol	50	12.95%
No of patients taken drugs	386	100.00%

Table 6. Tabular column represents the mean reduction in heart rate and blood pressure in Esmolol treated groups

	Before surgery	After surgery	P value
Heart rate (beats/min)	84.24 ± 1.86	72.36 ± 1.42	
SBP (mmHg)	138.26 ± 2.42	126.36 ± 1.86	<0.050
DBP (mmHg)	100.14 ± 3.46	82.14 ± 1.42	

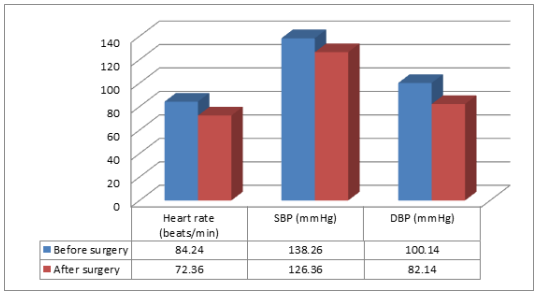

Figure 2. Graphical representation of mean reduction in heart rate, SBP & DBP in esmolol treated patients

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