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PREVALENCE OF TYPES OF ANESTHESIA IN 21ST CENTURY IN A TERTIARY CARE HOSPITAL

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Abstract:

Regional anesthesia has been part of perioperative medicine for more than a century. New enthusiasm has been sparked by recent studies for this practice This can have significant impact on perioperative and perhaps even long-term outcomes. This observational retrospective study was carried out in KRL Hospital during 1st September to 31st October 2020. A total sample size of 236 was achieved. Our study showed that 60% patients were given general anesthesia, 25.8% were given local anesthesia & spinal anesthesia was given to 9.7%. 2% of patients were given combined spinal epidural anesthesia & biers block each. Where as 0.4% patients were given a combination of spinal with general anesthesia. Safety and efficacy is same in all all forms of anesthesia though the selection of anesthesia solely depends on the surgeon and the operative case being done.

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INTRODUCTION:

There are four main categories of anesthesia used during surgery and other procedures: general anesthesia, regional anesthesia often called as spinal, local anesthesia & epidural. Sometimes patients may choose which type of anesthesia will be used [1].

Regional anesthesia has been part of perioperative medicine for more than a century. New enthusiasm has been sparked by recent studies for this practice by supporting the notion that regional anaesthetic techniques can have significant impact on perioperative and perhaps even long-term outcomes. Despite these developments, traditional epidemiological research in this field remains sparse and lags behind that available in most other medical specialties [2]. The choice of anesthetic technique should be determined with consideration of the degree of emergency in relation to patient status and comorbidities, as well as of the difficulty or expected duration of procedures [3]. The growing need for for high-risk patient care services, along with rising recognition of the anesthesiology subspecialty, prompted us, in 2015 to assemble an advanced team dedicated to clinical anesthesia practice [4].
The purpose of this study was to investigate the trends of anesthesia used, focusing on practices instituted by our anesthesia team.

MATERIAL & METHODS:

This observational retrospective study was carried out in KRL Hospital, affiliated with Fazaia Medical College Islamabad. The data was collected from 1st September to 31st October 2020. A total sample size of 236 was achieved.

All the patients were between 1 year and 90 years, and put into different subcategories. These patients presented to 7 different sub specialities. Patients booked in for operation & given anesthesia fitness were included in this study.

Data analysis was done through SPSS version 21. All qualitative variables are presented in frequency and percentages

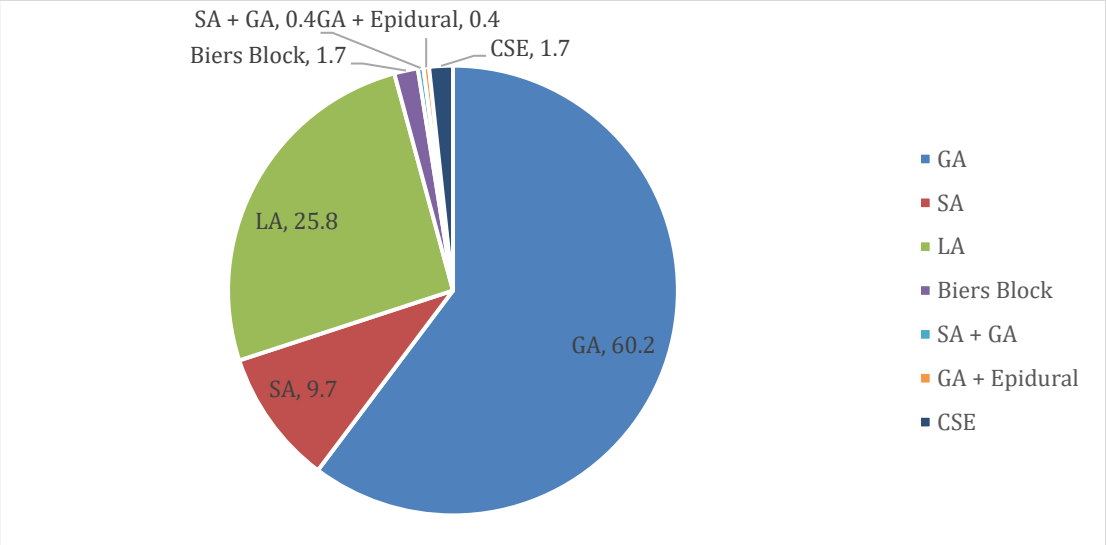
RESULTS:

Our study shows that highest number of patients were from the age group 1-20 years i.e 30.1% where as minimum from the age group 81-100 years i.e 2.1%. Males were predominantly higher in our study i.e 61.9% where as
females were 38.1% (Table No.1).

(Table No.1) Frequency of Age & Gender of the patients

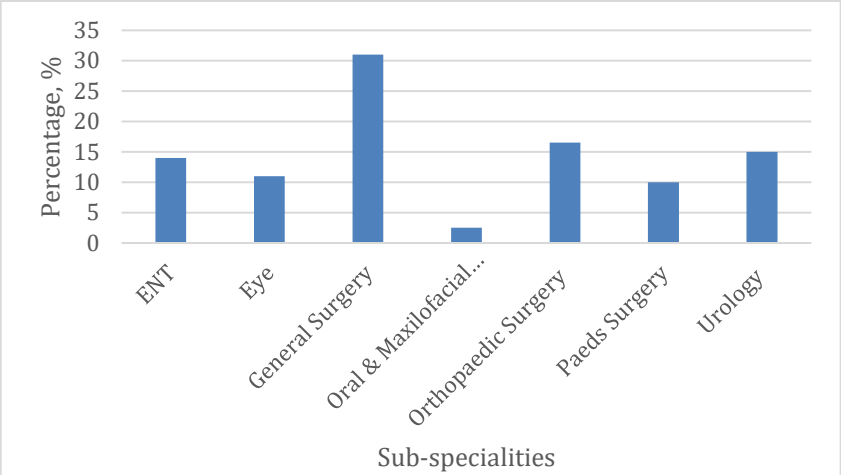
	Frequency	Percent	Valid Percent	Cumulative Percent
Age:1-20	71	25.2	30.1	30.1
21-40	69	24.5	29.2	59.3
41-60	62	22.0	26.3	85.6
61-80	29	10.3	12.3	97.9
81-100	5	1.8	2.1	100.0
Male	146	51.8	61.9	61.9
Female	90	31.9	38.1	38.1

In our study 60% patients were given general anesthesia, 25.8% were given local anesthesia & spinal anesthesia was given to 9.7%. 2% of patients were given combined spinal epidural anesthesia & biers block each. Where as 0.4% patients were given a combination of spinal with general anesthesia (Table No.2)



(Table No.2) Percentages of different types of anesthesia used.

This study shows that maximum patients were from general surgery i.e 31% where as minimum patients were from oral & maxillofacial surgery i.e 2.5 % (Table No.3)



(Table No.3) Percentages of different sub specialities

DISCUSSION:

Intraoperative awareness can significantly influence the cognitive and psychological functions of surgical patients. CIIA and midazolam application may lower the risk of intraoperative awareness [5]. A study shows that spinal anesthesia proves more effective than general anesthesia in suppressing stress response in elective surgical patients [6]. In general, the results of previous studies have shown that the choice of anesthesia technique affects intraoperative stress response, and thus significantly affects the outcome and morbidity of surgical patients and the reduction of postoperative pain [7].

Clinical evidence has shown that spinal anesthesia has an effect in modification of stress response by means of modulation or inhibition of the nociceptive afferent signals from the area of surgical trauma [6].

A comparative study showed that spinal anesthesia group compared to the general anesthesia group, can reduce stress response in patients undergoing anorectal surgery [8]. A study done in 2013 shows that patients undergoing elective lower abdominal surgery with SA may have lower pain scores and also lower morphine requirement in the first 6 h

postoperatively, but after that there were no significant differences between SA and GA. It showed that SA with hyperbaric bupivacaine 0.5% is only superior to the GA for reducing pain intensity and analgesia requirement and number of demands of supplemental morphine in the first 4-6 postoperative hour after lower elective abdominal surgery. Mean changes of HR and blood pressure were statistically lower during the operation period and also during the first 6 postoperative hours after that which may revealed to lower pain during that period [9].

Massicotte and coworker compared SA with GA on morphine requirement and postoperative pain score after abdominal hysterectomy. They concluded that postoperative pain at rest was lower in SA group. Patients consumed at least two times less morphine at each time interval than the GA group [10]. In a recent study Kessous *et al*. in a case-controlled study in 153 patients under either SA or GA for cesarean section showed that postoperative meperidine requirements in the first 24 h were significantly higher in the GA than SA and pain scores were graded after 8 h in the GA versus the SA and this reversed at 48 h.[11].

Eduardo Imelloni and coworker reported the importance of postoperative pain relief in laparoscopic cholecystectomy and concluded that SA was associated with an extremely low level of postoperative pain and better recovery than GA.[12].

In another study, Ganano and coworker concluded that patients in the GA group were admitted to the postanesthesia care unit with a higher pain score and needed more analgesic than patients in the SA group (both $P < 0.01$) [13]. A study reveals that in patients undergoing lower abdominal surgery, the neuraxial blockade and surgical anesthesia achieved by epidural local anesthetics was associated with decreased postoperative analgesic demands as compared to general anesthesia [14].

A comparative study of Combined general-epidural anesthesia With general anesthesia shows that combined anesthesia provides better analgesia and is associated with fewer cases of postoperative respiratory failure [15]. A randomized, parallel-controlled clinical trial done to compare general anesthesia plus postoperative intravenous analgesia with combined epidural-general anesthesia plus postoperative epidural analgesia shows that combined anesthesia reduces the incidence of delirium in elderly patients during the first seven days after major thoracic and abdominal surgery [16]. Previous studies showed that, when compared with general anesthesia and opioid analgesia, epidural anesthesia and analgesia decreases the risk of pneumonia, improves the recovery of gastrointestinal function, and reduces the 0-to-30-day mortality after major surgery [17-18].

A single-center, randomized controlled trial comparing Effects of thoracic epidural anesthesia and epidural analgesia shows epidural anesthesia has shorter time to first flatus and shorter hospital stay, while use of thoracic epidural anesthesia lowered the costs of intraoperative anesthesia ($P <.05$). However, the epidural anesthesia groups had a higher incidence of nausea, vomiting, and pruritus [19].

A study shows that local anesthesia for intraoral injection includes considerations of efficacy, safety. They are the safest and most effective drugs in all of medicine for the prevention and management of pain [20].

A parallel group, multicentre, randomized controlled trial was done of carotid stenosis patients, under GA and LA which revealed that the two groups did not significantly differ for quality of life, length of hospital stay, or the primary outcome in the prespecified subgroups of age, contralateral carotid occlusion, and baseline surgical risk [21].

CONCLUSION:

This study concludes that all anaesthetic techniques are associated with better pain relief and improved outcomes. Spinal anesthesia is shown to be expedient anesthetic choice in the perioperative setting as well as general anesthesia. All forms of anesthesia are considered safe and efficient. Selection of anesthesia purely depends on the surgeon and the operative case being done.

Intraoperative awareness should be created to significantly influence the cognitive and psychological functions of surgical patients.

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