

Anaesthesia Practice In A Hospital Developing Countries: An 18months Experience

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Abstract

Most surgical operations are still being done in developing countries without the services of an anesthesiologist due to manpower shortage in this field. The aim of this study was to highlight the experience from a specialist hospital in south western Nigeria still plagued by this problem. Over an 18 months period 376 patients were operated, using intravenous Ketamine in 220 (58.4%) and local infiltration in 156 (41.5%) patients. Of these 150 were done as emergency and 226 as elective, with 197 major surgical operations and 179 intermediate and minor operations. Transient elevation of blood pressure in 95 (43%) and emergent delirium and confusion in 33(15%) were the only complications of Ketamine anaesthesia with one non anesthetic death. It was concluded that intravenous Ketamine and local infiltration with xylocaine will still suffice for most commonly occurring surgical in this environment.

INTRODUCTION

No doubt anesthesiologist remains the one of the most wanted specialties in the field of medicine. There is a general dearth of anesthesiologist in developing countries Nigeria not been an exception. Records from our national postgraduate medical college showed that in her over 35 years of existence only 64 fellows of faculty of Anesthesia has been produced, hence most of the hospitals in the country are run without them⁽¹⁾. However despite this short comings surgical operation has continued to be performed with little anesthesia related complications. The surgeon has to double as anesthesiologist and monitoring of the patients is done by the nurse or junior doctor ⁽²⁾. This paper aim to highlight the experience in one of the state specialist hospitals in Ondo state in south western Nigeria with emphasis on what to do where similar situation exist in developing countries,

PATIENTS AND METHODS

This is a retrospective study of the operated patients in the State Specialist hospital Ikare; Ondo in south western Nigeria from January 2004 to June 2005. This hospital has only a visiting consultant Surgeon during the period of the study. The data were collected from the theater register and medical record department. The following data were collected, demographic status of the patients, diagnosis type operation done, and the mode of anesthesia and duration of

the operations.

These were analyzed using SPSS version 10. The results were expressed as simple mean and percentages. The operations were done by the experienced medical officers and the Consultant Surgeon. Proper patient selection and the necessary investigations were carried out preoperatively. Only two type of anesthesia were administered viz; General anesthesia with intravenous Ketamine and Local anesthesia with 1% xylocaine.

Intravenous Ketamine was given with 2mg/kg in adult or 1mg/kg in children as induction dose followed by increment of 1-1.5mg/kg for maintenance of the anesthesia. Pre-medication was given consisting of intravenous atropine 0.6mg in adult and 0.3mg in children plus diazepam 10mg in adults and 0.45mg/kg in children. Those with transiently elevated blood pressures had chlorpromazine 50mg prior to induction. Local anesthesia was done with 1% xylocaine.

Patient was monitored by regular recording of vital signs by the nursing staff or junior doctor. The entire patients breathe room air except one that was given oxygen by face mask.

RESULTS

Three hundred and seventy six patients were operated during the period of the study consisting of 177(47.1%) males and 199(52.9%) females with a ratio of 1:1.4

Age of patients ranged from 1-91 years with mean 34.7 years \pm 18 SD. There were 197 (52.4%) major operations and 179(47.6%) minor and intermediate operations with 150(40.1%) done as emergency and 226(59.9%) elective procedures.

General anesthesia with intravenous Ketamine was given in 220(58.4%) patients and local infiltration with xylocaine in 156 (41.5%). Only 95(43%) patients had transient elevation of blood pressures and 33(15%) patients had delirium and confusion

One hundred and fifty-seven (41.8%) were intra-abdominal operations including herniorraphies and herniotomies, perineal /pelvic /genital operations in 174 (46.3%) patients and Extremities/chest /head/neck operations in 45 (12%) patients.

The spectrum of major surgical procedures and intermediate and minor surgical procedure are as listed in table 1

Figure 1

Table 1: Spectrum Of Major, Intermediate And Minor

Major operations		Intermediate/Minor operations	
Caesarian section	95(25.3%)	Herniorraphy /	
Appendectomy	27(7.2%)	Herniotomies	108(28.7%)
Exploratory Laparotomy	19(5.1%)	hydrocolectomy	21(5.6%)
Prostatectomy	19(5.1%)	Excisional biopsy	13(3.6%)
Salpingectomy	17(4.5%)	suturing of lacerations	8(2.1%)
ORIF with plate/screws		Foreign body removal	7(1.9%)
/Kuntscher nails	5(1.3%)	chest insertions	4 (1.1%)
Myomectomy	5(1.3%)	perineal repair	4(1.1%)
Hysterectomy	4(1.1%)	incision/drainage	3(0.8%)
Bilateral truncal vagotomy		cervical laceration	3(0.8%)
and drainage	2(0.5%)	manual removal of placenta	1(0.2%)
Liver abscess drainage	1(0.2%)	Sequestrectomy	1(0.2%)
Club foot surgery	1(0.2%)	supra-pubic cystostomy	1(0.2%)
Flap closure of defect	1(0.2%)	stump refashioning of thumb	1(0.2%)
Bladder repair	1(0.2%)	Reduction of dislocation	1(0.2%)
Sub-total	197(52.4%)		179(47.6%)
Total	376		

There was one non anesthetic related death which was in a 65 years old woman with gangrenous sigmoid volvulus who became septicaemic post operation. It was thought that the patient died from multiple organ failure but this may be speculative as no autopsy was done.

DISCUSSION

The problems of inadequate man-power identified four decades ago in the health sector have continued to plague developing countries (3). These make it mandatory that most procedure is carried out by medical assistants. Safe anesthesia has continued to be administered with the use of intravenous Ketamine and local infiltration with xylocaine for most surgical procedures. In this study all the major, intermediate and a few of minor surgical operations were done using intravenous Ketamine as general anesthesia

without serious complication .However intra- abdominal operation where muscle relaxation is required was carried out with the addition of sedatives such as diazepam and chlorpromazine.

The finding in this study conformed to the previous reports in which Ketamine anesthesia was found to be adequate and satisfactory for many operations. (6, 7) except in cases of uncontrolled hypertension and known history of psychiatry illness where its use is contraindicated. (5, 8). This is due to the adverse effect on the central nervous system and cardiovascular system. The spectrum of operated cases done in this study also compares favorably with the report by Adesunkanmi therefore demonstrating the unchanging disease profile in our environment.

In this study emergent delirium and confusion and transient intraoperative hypertension were the only documented side effect of Ketamine. This differ from the previous reports where convulsion was also an observed complication (2)

These side effects were controlled with the administration of diazepam and chlorpromazine respectively.

Local infiltration was done in 41.4%, this was found to be very safe and without any recorded complication however care must exercised during its administration to prevent direct inject into an artery or vein as this can lead to untoward cardiovascular effect. This can be done by first withdrawing into the syringe, and when blood is not drawn then it is safe to infiltrate.

It was concluded that in developing countries despite man power shortage in the field of anesthesia most commonly occurring surgical conditions can be operated safely with use of intravenous Ketamine and local infiltration with xylocaine.

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