MATERIAL AND METHODS
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The study was conducted in the Gynaecology and Obstetrics Operation Theatre of M.L.B. Medical College Hospital, Jhansi, during the year 1990.

Selection of cases:

The patient requiring abdominal and vaginal hysterectomy operations of A.A.A. Grade I & II, between the age group of 25 to 60 years were selected from the Gynaecology & Obstetrics ward of the M.L.B. Medical College Hospital, Jhansi.

Patient's name, age, body weight and M.R.B. No. were noted and a thorough history and physical examination was done prior to the day of the operation.

Routine investigations like estimation of haemoglobin, blood sugar and blood urea level and routine and microscopic examination of urine were done. Electrocardiogram and Chest X-ray were done when indicated. The protocol for this study was institutionally approved and written consent was obtained for each patient.

The pulse oximeter used was the Minolta PULSE Ox-7. A light source generated by two light emitting diodes (LEDs),
wavelengths at approximately 660 nm and 940 nm and a photodiode (finger probe) was mounted in a finger receptacle. No heating or "arterialization" technology were required. Circuit control, saturation calculation and display were managed by a micro-processor instrument. No user calibration procedure was required.

Blood pressure recording was done by the sphygmomanometer instrument.

Each of the cases were examined thoroughly before induction of anaesthesia. Pulse rate, blood pressure, respiratory rate, arterial oxygen saturation by pulse oximeter and mean of three readings of tidal volume and minute volume were recorded.

REMEDICATION

After establishment of intravenous line with 16 G I.V. Canula, cases were premedicated with Atropine 0.6 mg and Dianepan 5 to 10 mg injected slowly 5 minutes before anaesthesia.

Techniques of Anaesthesia

In this study, only two anaesthetic techniques were used:

1. General Anaesthesia: \( O_2 + N_2O + \) Ether

\[ O_2 + N_2O + \text{Relaxant.} \]

2. Spinal Anaesthesia.
**General Anesthesia:**

In general anesthesia, preoxygenation was done for at least 5 minutes, then patients were induced with a sleep dose of 2.5% sodium Thiopentone (Pentothal) followed by 50 - 100 mg succinylcholine (acoline). IPPV started and followed by endotracheal intubation.

For the maintenance of anesthesia, patients were divided into two groups.

**Group A:** \( \text{O}_2 + \text{N}_2\text{O} + \text{Ether} \)

**Group B:** \( \text{O}_2 + \text{N}_2\text{O} + \text{Pancuronium Bromide (Pavulon)} \)

Group B patients were on IPPV with the divided doses of Pancuronium and Pancuronium.

Patients were reversed by the Neostigmine 2.5 mg and Atropine 1.2 mg.

**Spinal Analgesia:**

In spinal analgesia, 1.4 ml of 1% Bupivacaine (Marcaine) by the lumbar puncture needle of 20 G was injected into the subarachnoid space between the L3 & L4 space in left lateral or right lateral position under complete aseptic condition. 10° head down tilt was given after maintaining the supine position. After the establishment of the block, surgery was allowed to proceed in supine position (Abd. Hysterectomy) or lithotomy position (Vag. Hysterectomy).
Measurement / Assessment:

The pre-, per- and post-operative evaluation was done by the same person. During operation, pulse, blood pressure, arterial oxygen saturation ($SaO_2$) by the pulse oximeter, respiratory rate, tidal volume and the subjective assessment of blood loss during operation were recorded.

Post-operative Follow-up:

The patients were shifted to recovery room attached to the operation theatre and were watched post-operatively. The pulse rate, blood pressure, arterial oxygen saturation, respiratory rate were recorded in the immediate post-operative period.

Analysis of Data:

The results obtained from the three groups of the patients were compared using the simple statistical methods. The paired 't' test was used to compare the differences between the pre-, intra and post-operative values in all the three groups (A, B, C) and 'p' value was taken from the chart of probability.

Statistical Calculation:

1. Mean $\bar{x} = \frac{\sum x}{n}$

where $x =$ number of frequencies

$n =$ number of patients.
2. Standard Deviation (S.D.) = \( \sqrt{\frac{(x - \bar{x})^2}{n}} \)

where \( x \) = number of frequencies,
\( \bar{x} \) = mean
\( n \) = number of patients.

3. Degree of freedom (d.f.) = \( n - 1 \)

4. Standard error of mean = \( \frac{S.D.}{\sqrt{n}} \)

where \( S.D. \) = standard deviation of mean,
\( n \) = number of patients.

5. "Paired t-test"

\[ t = \frac{\bar{d}}{s_d/\sqrt{n}} \]

where \( \bar{d} = \frac{d}{n} \) (\( d \) = difference between \( x \) & \( y \))
\( n \) = number of patients.
\( s_d \) = standard deviation of \( d \) series.

6. 'P' value = taken from the chart of probability.