

Abstract

The aim of this study was to determine the costs of anaesthesia for common surgical cases at the U.H.W.I. as well as to identify common practice patterns among anaesthetists at that hospital regarding drug use and selection of anaesthetic techniques. Detailed data regarding patient name, age and ASA physical status, type of surgery, anaesthetic technique, duration of anaesthesia, and quantities of drugs, gases and vapours and disposable supplies used was obtained for 606 cases. The costs of the individual items used for each case were summed to derive total anaesthesia cost for that case. No attempt was made to determine overhead costs or cost of postoperative recovery or to assess outcome. Halothane based general anaesthesia was used in more than 98% of cases - muscle relaxation was used in more than two-thirds of these and spontaneous breathing in less than one-third. Regional anaesthesia was used in less than 1% of cases. More than two-thirds of patients were premedicated with various combinations of atropine, phenergan and pethidine at a cost of U.S\$0.59-1.50. An intravenous induction of anaesthesia was carried out in 55.5% of cases while inhalational induction was used in 9.1% and 33.6% had a combination of inhalational and intravenous induction. Inhalational induction was cheap at a mean cost of U.S\$1.99 per case, while intravenous induction with thiopentone costed U.S\$5.95 and with propofol costed U.S\$12.53. There was little difference in the usage frequencies of the muscle relaxants used for maintenance of anaesthesia. The cheapest muscle relaxant was curare at U.S\$0.69 per hour while atracurium was most costly at U.S\$4.63 per hour. Fentanyl was 1.6 times as costly as pethidine and was used slightly more frequently than pethidine. A total gas flow rate of 8L/min or more was used for more than 64% of cases, while a 50% oxygen:nitrous oxide mixture was used for more than 53% of cases. Maintenance of anaesthesia with spontaneous breathing was slightly more costly than with muscle relaxation. The mean cost of anaesthesia was U.S\$44.64, with gases and halothane accounting for just under 50% of this, and intravenous drugs for less than 25%. It was concluded that the cost of anaesthesia at the U.H.W.I. could be significantly reduced by changing practice patterns, especially by increasing the use of regional anaesthesia, reducing the flow of gases, using less expensive drugs and by adopting general measures to reduce wastage.