Ketamine has the low cost, ease of administration, effective, relatively better side effect profile, and ease of availability in hospitals make ketamine an otherwise attractive option. Moreover it is a simple method in practice and has no significant effect on the quality of recovery.

Ketamine is a phencyclidine derivative and introduced in 1965. Ketamine is extremely lipid-solube. After i.v injection, it induces anaesthesia in 30-60s. A single i.v dose produces unconsciousness for 10-15 minute. Ketamine also effective within 3-4 min after i.m injection and has a duration of action 12-25 min. It is a potent somatic analgesic at subanaesthetic blood concentration. Anaesthetic and analgesic doses of ketamine are 1.5-2.5 mg/kg and 0.5 mg/kg respectively.

In the present study ketamine used is a dose of 0.2mg/kg which is much lower than the dose for producing central analgesic effect. Its seems likely that the reduction in injection pain was the result of a peripheral action which attenuate the afferent pain pathway[20,29]. Dose of ketamine could attenuate the pain produced by propofol and thirty seconds was allowed for its action begin. Tan and Kua et al in 1998 studied the effect of ketamine pretreatment on propofol injection pain and found that the incidence of pain was reduced from 84% to 26%.[1]

In this randomized study, we used intravenous ketamine pretreatment to determine whether it decrease the propofol injection pain.

As pain during injection of propofol is a common phenomenon, this study will be helpful in reducing the occurrence of pain on intravenous propofol injection.

Materials and Methods:

This is a prospective, randomized study for evaluating the effectiveness of this low dose ketamine pretreatment in reducing propofol injection pain in intravenous route.The study was conducted for a period of six months from 7th February 2017 to 7th August 2017. The total period was divided to perform different activities. Literature review, planning, design and protocol writing, data collection , data analysis and dissertation writing -06 months. One hundred eight (108) patients scheduled for various elective surgical procedure under general anaesthesia done in the department of anaesthesia in Bangladesh medical college hospitals, Dhaka who were fulfill the inclusion criteria were included in the study.

A total number of 108 patients with ASA physical status I & II scheduled for various surgical procedure under general anaesthesia was primarily in this study. The patients were randomly allocated equally, 54 in each group, into group-A & B. Patients were allocated by using a fixed card lottery method. The patients of group-A received ketamine 0.2mg/kg and group-B received Normal Saline same amount.One hundred and eight ASA I and II adult patients schedule for various elective surgical procedures under general anaesthesia were included in the study. After the approval from ethical committee written informed consent was obtained from all patients. All patients were made familiar with verbal pain score. Intensity of injection pain was assessed using a four point verbal response scale.ECG, NIBP and SpO2 monitoring was established and a cannula was inserted on the dorsum of the hand of all patients.

Group-A (54 patients): Received 2ml of diluted ketamine solution (0.2mg/kg) intravenously.

Group-B (54 patients): Received 2ml of o.9% normal saline intravenously.The solution was prepared by an independent anaesthesiologist and the investigator did not know the content of the solution.Injection propofol (2.5mg/kg) was loaded in a syringe. After pretreatment, the venous drainage was occluded manually at mid arm by an assistant. One fourth of the total calculated dose of propofol was administered over a period 5 seconds. The level of pain was assessed at zero, one and two minutes after administration of propofol by a second observer who was unaware of the group to which the patient had been allocated. The patients were asked a standard question about the pain on injection of propofol, the verbal response and the behavioral signs, such as facial grimacing, arm withdrawal or tears were noted. A score of 0-3 which corresponds to no pain, mild, moderate and severe pain was recorded at zero, one