

## Intravenous Nitroglycerin for Manual Removal of Placenta

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Retained placenta occurs in about 1% of all vaginal deliveries. Usually, uterine relaxation is accomplished with the potent inhalation agent that exposes the parturient to the risk of regurgitation and aspiration. There are reports using intravenous nitroglycerin (NTG) successfully aid manual removal of placenta. Our objectives are to evaluate the effectiveness for uterine relaxation by NTG and the adequacy of analgesia provided by intravenous fentanyl and 66% nitrous oxide (N<sub>2</sub>O) spontaneous ventilation via face mask. The complications were also observed.

Prospective study was done in 25 parturient with retained placenta. Inclusion criteria were ASA class I-II, systolic pressure > 100 mmHg and pulse rate < 100/min. Successful extraction of placenta was achieved in all cases. Fifteen patients (60%) were achieved in 90 seconds, 8 patients (32%) required second dose and 2 patients (8%) required third dose for the entire procedure. Recovery of uterine muscle tone occurred in 1-2 minutes after NTG injection in all patients. There were no clinically significant changes in blood pressure and heart rate. All patients remained conscious during the procedure. Adequate analgesia was achieved in 22 patients (88%)

discomfort in 2 patients (8%) and one patient (4%) with pain that required intravenous ketamine 25 mg for supplement analgesia. Tracheal intubation was not required in any patients. Side effects such as prolong uterine relaxation and headache were not observed.

In conclusion, intravenous NTG is an effective smooth muscle relaxant with short half-life and brief duration of action. NTG can be used effectively for manual removal of placenta with supplement analgesia. It is another attractive technique for uterine relaxation that avoids the use of potent inhalation agent.