

PROTOCOL #28 - Maternal Fetal Medicine, University of New Mexico

USE OF OXYTOCIN - ACTIVE MANAGEMENT OF LABOR

A. General

Oxytocin is for induction and augmentation of labor and the prevention and treatment of postpartum hemorrhage. Oxytocin should always be administered via dilute intravenous infusion and with careful monitoring of uterine activity and fetal response.

Active management of labor (AML) has been demonstrated to decrease the length of labor, show a trend towards a reduced incidence of cesarean section, and to partially overcome the effects of epidural analgesia on normal labor progress. As originally described for the augmentation of labor, AML involves prenatal education, scrupulous diagnosis of true labor on the basis of advanced (>90%) cervical effacement regardless of dilation, artificial rupture of membranes as soon as the diagnosis of true labor is established, and use of high dose oxytocin. As a result of studies carried out on our labor and delivery unit, the oxytocin dosage schedule recommended by the AML protocol is currently recommended for use in our laboring patients.

B. Procedure

1. I.V. solution to be prepared with 30 units of oxytocin per 500 mL of solution. Administration.
2. In uncomplicated nulliparous patients and in multiparous patients who have had fewer than 5 vaginal deliveries oxytocin is to be started at 6mU/minute (6mL/hr) per a volume-controlled infuser pump. The infusion is increased by 6mU/min (12, 18, 24, etc) every 15 minutes until 7 uterine contractions are achieved in a 15 minute interval, or a maximum of 36mU/min is reached.
3. Continuous fetal monitoring is mandatory during oxytocin administration and in low risk patients may consist of either electronic tocodynamometry or auscultation of FHT every 30 minutes during first stage of labor, every 15 minutes during second stage, and every contraction when delivery is imminent.
4. In grand multiparous patients (>5 vaginal deliveries), patients with a scarred uterus (prior cesarean section or myomectomy), patients with an overdistended uterus (multiple gestation or hydramnios), and in patients with a jeopardized fetus (eg. Severe IUGR), oxytocin infusion is to be started at 1.0mU/minute (1 ml/hr per a volume controlled infusion pump). The infusion is increased by 1mU/min every 15 minutes until adequate uterine activity as defined above is achieved, or, alternatively, defined by achieving 200 montevideo units of uterine activity. An internal uterine pressure catheter and internal fetal monitor lead should be placed as soon as is practical.
5. Terbutaline 0.25ug diluted in 10 ml of solution of IV use should be in place at the bedside in all patients.
6. Uterine hyperstimulation syndrome is defined as the presence of prolonged uterine contractions (>2minutes duration), uterine tachysystole (>6 contractions per 10 minute interval, or elevation of baseline uterine tone (>20cm H20 per internal uterine pressure transducer), in combination with indication of fetal intolerance of contractions (repetitive late decelerations, repetitive severe variable decelerations, or prolonged bradycardia). This syndrome should be treated by immediate discontinuation of oxytocin with evacuation of oxytocin from IV line, and, if

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necessary in order to relieve the fetal intolerance of the contractions, administration of terbutaline in the above dosage form.

7. Oxytocin should not be increased when adequate uterine activity is present. When an intrauterine pressure catheter is in place, 200 montevideo units of activity is considered satisfactory.

D. Third Stage of Labor

1. Route of administration of oxytocin
 - a. 20-40 U oxytocin in 1000mL Ringer's lactate IV at 150 mL/hr.
 - b. 20 U oxytocin IM if IV access not immediately available

Caution: Severe hypotension may result following bolus administration of oxytocin. Dilution in no less than 500cc is required.

CONSULTATION: Twenty-Four hour consultation is available by calling the Maternal Fetal Medicine service at the University of New Mexico Hospital, 1-888-866-7257.