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# Life Threatening Reactions To Synthetic Oxytocin – A Case Report.

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**ABSTRACT**

Maternal Death during labour is a dreaded dictum. Massive heamorrhage is a major cause of maternal mortality. Life threatening haemorrhage may occur as frequently as 6.7 / 1000 deliveries. 0.8% of ICU admissions are pregnancy related conditions of which 35% are due to massive haemorrhage. Obstretic heamorrhage could be antepartum, bleeding occurring after 25 weeks of gestation & before delivery or post partum PPH which occur after delivery. Loss of uterine tone is one of the commonest complications of PPH. Uterotoincs like oxytocin infusion are used to maintain uterine contraction. Though it is established to be relatively safe & is being routinely used by every obstretician. Here we now present two reactions to administration of syntocin.

**Keywords:** Oxytocin, Bronchospasm, Hypotension.

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**CASE REPORT**

A 35yr lady was posted for elective caesarean section. She was a case of G4P3L3 admitted for safe delivery .Not a known case of Asthma,Toxemia of pregnancy with no comorbid conditions. A subarachnoid block technique was preferred. After delivery of the baby, an infusion of 20 units Syntocinon was started. She immediately complained of breathing difficulty and developed extensive rhonchi. The infusion was stopped and she was treated with IV dexamethasone. 30 mins later, on insistence of the obstetrician, Syntocinon drip was restarted. Within minutes, she once again developed bronchospasm and hypotension. Immediately BP fell to 70/40mm Hg, Blood loss was as usual and not excessive. A drug reaction was .suspected. The infusion was stopped .She was resuscitated with IV bolus of ephedrine 12mg and 500ml of Hydroxyethyl starch.Injection carboprost 250mcg IM was given to prevent PPH since she was a multigravida. Her Blood pressure stabilized [1].

**Discussion**

Synthetic oxytocin is one of the most commonly used drugs in obstetric practice. It has been established to be very safe.

Oxytocin a posterior pituitary extracts in obstetrical practice lies in their ability to stimulate physiological, effective uterine contractions. Because the oxytocic principle contained in these preparations is an extremely potent drug, they have been both admired and feared. The very potency which affords numerous uses of oxytocin in normal and abnormal obstetrical situations is capable, if injudiciously employed, of producing serious and even fatal accidents.

In 1953, the chemical structure of oxytocin was elucidated almost simultaneously by DuVigneaud and associates in the United States and Tuppy in Austria. In the following year, DuVigneaud was able to synthesize oxytocin and, in 1955, Boissonnasevolveda method of manufacturing synthetic oxytocin on a commercial scale.

It was concluded that the preparation is as effective as natural oxytocin. There were no side effects observed, particularly vasospasm or anaphylactic reaction. Intravenously with the birth of the anterior shoulder: 10 units undiluted. Intravenous infusion to control postpartum hemorrhage or uterine atony: 30 or 40 units in 1,000 cc. of 5% dextrose in water.Intravenous infusion to stimulate labor: 5 units in 500cc. of dextrose in water or, if the uterus appeared to be particularly irritable, 3 units in 500 cc. of 5% dextrose in water.

Massive haemorrhave is a major cause of maternal mortality. Life-threatening haemorrhage may occur as frequently as 6.7 per 1000 deliveries. This equates to 1400 cases yr-1 in the UK or 33.5 yr-1 in an obstetric unit with 5000 deliveries annually. Pregnancy-related conditions and complication account for 0.8% of intensive care admissions; 35% of these arise from massive haemorrhage [3].

Massive obstetric haemorrhage is variably defined as: blood loss>1500ml; a decrease in haemoglobin >4 g dl-1; or an acute transfusion requirement of >4 units.

The basic principles of PPH management involve prediction and prevention of PPH.

The usual components of Active Management of third stage of labour include:

- Administration of oxytocin or another uterotonic drug within one minute after the birth of the baby
- Controlled cord traction ONLY when a skilled attendant is present at the birth
- Uterine massage after delivery of the placenta as appropriate.

In situations where no oxytocin is available or birth attendants' skills are limited, administering misoprostol soon after the birth of the baby reduces the occurrence of haemorrhage.

Uterotonics like Oxytocin infusion (syntocinon 40 units in 500 ml of 0.9% normal saline, infused at a rate of 125 ml/h) can be used to maintain uterine contraction. Careful monitoring of fluid input and output is important to avoid fluid overload with the use of oxytocin infusion, as fatal pulmonary and cerebral oedema with convulsions have been reported due to the antidiuretic hormone (ADH) – like effect of oxytocin.

The traditional second line agent for uterine atony is carboprost (15-methyl prostaglandin F2∞), 0.25 mg deep intramuscularly, which can be repeated every 15 min to a maximum dose of 2 mg. Carboprost has been shown to be 80-90% effective in stopping PPH in cases refractory to oxytocin and ergometrine. Intramyometrial injection of carboprost has been tried.

There was a greater increase in heart rate following administration of 5U of oxytocin ($p<.001$). There was a larger decrease in mean arterial blood pressure in mothers who received boluses of 5U when compared with 2U of oxytocin ($p<.001$) [2].

Discussion Synthetic oxytocin (Syntocinon) is a time tested safe drug. It can cause minimal hypotension. But in rare occasions it can produce bizarre reactions. The above two instances draw notice to this fact.

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