

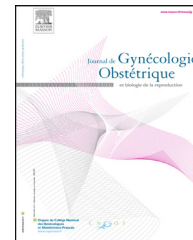


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ORIGINAL ARTICLE

Systematic prophylactic oxytocin injection and the incidence of postpartum hemorrhage: A before-and-after study



Injection prophylactique systématique d'ocytocine dans la prévention de l'hémorragie de la délivrance : étude avant/après

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Active management
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Vaginal delivery;
Pregnancy

Summary

Objective. – Assess the impact of routine injection of 5 units of oxytocin as soon as the anterior shoulder is delivered on the incidence of postpartum haemorrhage (PPH) in a context of daily practice.

Materials and methods. – Single-centre before-and-after study evaluating the effect of a change in the protocol for PPH prevention as applied in our obstetrical unit. During the first period, oxytocin (5 units) was to be injected only in case of PPH risk factors. During the second period, the injection was systematic.

Results. – In the "before" study period, there were 1953 patients vaginal deliveries and 843 (43%) oxytocin injections, with a protocol compliance of 85%. In the "after" study period, 2018

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MOTS CLÉS

Ocytocine ;
Hémorragie du
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Prise en charge active
de la troisième phase
du travail ;
Accouchement par
voie basse ;
Grossesse

women had vaginal deliveries and 1911 (95%) had an oxytocin injection (protocol compliance: 95%). The whole study period was associated with a reduced risk of moderate haemorrhage (13.4% vs. 9.2%, $P < 0.001$), but no significant reduced risk of severe haemorrhage was observed (2.1% vs. 2.0%, $P = 0.79$). After logistic regression, the study period remained associated with a significant reduction in the risk of moderate PPH (OR = 0.72 [0.58–0.89]).

Conclusion. – Routine injection of 5 units of oxytocin makes it possible to reduce the risk of moderate PPH, but it does not affect the risk of severe PPH.

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Résumé

Objectif. – Évaluer l'impact de l'utilisation systématique de 5 UI de syntocinon au dégageant de l'épaule antérieure après accouchement par voie basse dans l'incidence de l'hémorragie du post-partum.

Matériel et méthodes. – Étude monocentrique de type avant/après évaluant l'effet d'une modification de protocole dans la prévention de l'HPP. Durant la première période, le syntocinon (5 UI) était injecté seulement en cas de présence de facteurs de risque. Durant la seconde période, l'injection était systématique. L'HPP modérée était définie par une perte sanguine de plus de 500 mL et sévère pour une perte de 1000 mL ou plus.

Résultats. – Durant la période « avant », 1953 ont accouché par voie basse et 843 (43 %) ont eu une injection d'ocytocine (compliance du protocole dans 85 % des cas). Durant la période « après », 2018 patientes ont accouché par voie basse et 1911 ont reçu du syntocinon (compliance du protocole dans 95 % des cas). La période d'étude était significativement associée à une réduction du risque d'HPP modérée (13,4 % vs 9,2 %, $p < 0,001$) mais pas de survenue d'HPP sévère (2,1 % vs 2,0 %, $p = 0,79$). Après régression logistique, la période d'étude demeure associée à une baisse significative du risque d'HPP modérée (OR = 0,72 [0,58–0,89]).

Conclusion. – L'injection de 5 UI de syntocinon permet de réduire le risque d'HPP modérée sans toutefois modifier le risque d'HPP sévère.

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Introduction

If maternal mortality due to postpartum haemorrhage has decreased (currently 1.6 death/100,000 live births) in France, it remains the first (16%) and nonetheless most preventable/avoidable (80%) cause of maternal death [1]. These haemorrhages generate substantial long-term morbidity and require supplementary treatment that increases the cost and duration of hospitalization [2].

Because less than half the patients with postpartum haemorrhage (PPH) have identifiable risk factors, a program for PPH prevention cannot be based solely on knowledge of these factors [3]. The "active management of the third stage of labour" describes a set of systematically employed prevention strategies, including injection of uterotonic agents (oxytocin, ergometrine, or both), early clamping and cutting of the umbilical cord, and controlled cord traction [4–8]. Indeed, such active management of the third stage of labour halved the incidence of PPH > 500 mL and PPH > 1000 mL as compared to expectant management [9]. Begley et al. [10] identified three trials including only patients at low risk of PPH and one trial including patient regardless of risk [11–14]. The results of the meta-analysis showed a benefit of active management compared with expectant management, but the management protocol differed from one study to another.

In fact, few studies have clarified the specific advantages and possible adverse effects of active vs. expectant

management. Westhoff et al. reviewed 20 trials including pregnant women anticipating a vaginal delivery where prophylactic oxytocin was given during management of the third stage of labour [15]. Prophylactic oxytocin compared with placebo reduced the risk of PPH greater than 500 mL (risk ratio [RR] 0.53; 95% confidence interval [CI] 0.38 to 0.74; six trials, 4203 women) and the need for therapeutic uterotonics (RR 0.56; 95% CI 0.36 to 0.87, four trials, 3174 women). But in those studies, oxytocin was evaluated with different protocols and with other strategies.

In order to evaluate the specific effect of oxytocin during the third stage of labour, we conducted a before-and-after study to assess the effect in a context of daily practice of a policy of routine 5-unit oxytocin injection at the moment of anterior shoulder delivery, compared with a policy of oxytocin injection only when risk factors are present.

Materials and methods

This single-centre before-and-after observational study was planned in a level III referral university hospital. It received approval from the Committee for Ethics and Research in Obstetrics and Gynaecology. Because of the high PPH rate in our department – around 13%, although the literature indicates that rates generally range from 5 to 11% [16] – we decided to modify our PPH prevention protocol. Since 1997, we used a protocol in which oxytocin injection at delivery

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