

# Is immediate post-partum curettage of the endometrium accelerate recovery from Preeclampsia–Eclampsia? Five Years Experience in Mansoura University

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## Abstract

**Objectives:** to evaluate the effect of immediate postpartum curettage in pre-eclampsia and eclampsia women, on rapid resolution of clinical and laboratory indices, duration of stay in obstetric intensive care unit, and also morbidities associated with eclampsia.

**Materials & Methods:** in this prospective randomized case control study, 420 pre-eclamptic or eclamptic women with singleton pregnancy, were diagnosed from 24 weeks onward, involved. These cases were subdivided into two groups, first, (220 cases) underwent immediate postpartum curettage, while the second, (200 cases) comprised the control group, who were not submitted to immediate postpartum curettage.

**Results:** significant improvement was noted in the mean arterial blood pressure (MAB), urine output, renal and liver functions (creatinine, uric acid, and SGPT, SGOT levels respectively) and also in the platelet count in the study group compared to those in the control group. Average duration of 52.6 + 5.12 hours hospital stay in the study group was significantly lower than 78.2 + 3.12 in the control group ( $P = 0.002$ ). Five percent of women in the study group developed serious complications, mainly eclampsia, renal or liver impairment in the postpartum period in comparison to 24.6% in the control group.

**Conclusion:** immediate postpartum curettage is a safe and effective procedure and can accelerate recovery from pre-eclampsia or eclampsia, consequently affecting the incidence and severity of post-partum complications.

**Key words:** eclampsia, curettage, postpartum.

## Introduction

Preeclampsia (PE), especially those with early-onset and severe PE, is a leading cause of maternal and perinatal morbidity and mortality [1, 2]. PE affects 5–7% of first pregnancies and recurs in 13–18% of subsequent pregnancies [3–5]. Severe PE, developing remote from term (less than 34 weeks), represents around 25% of all cases of PE and is associated more likely to recur in a subsequent pregnancy [6, 7], and is associated with a higher rate of maternal morbidity than PE developing near term [8]. Approximately 50,000 women die worldwide each year from eclampsia; a severe form of complicating PE [9]. Most of these deaths are from developing countries. The presence of a toxin, that acts as a pressor substance (hysterotonin) in the decidua and amniotic fluid of women has been suggested to be responsible for the multiplicity of clinical expression [10].

To affect a rapid cure, the chorionic villi must be expelled or surgically removed [11, 12]. Resolution of eclampsia occurs only with delivery and subsequent removal of functioning trophoblastic tissue [13]. Accelerated recovery from the disease process following delivery could avert associated serious and life threatening maternal complications and shorten the time required for intensive care stay and hospitalization. The present study evaluates the effect of immediate postpartum curettage on the resolution of clinical and laboratory indices associated with eclampsia.

## Patients and methods

The protocol of this study was approved by the local ethical committee in Mansoura Faculty of Medicine, Egypt. All the included group gave informed consent before starting the study. The study included 420 singleton pre-eclamptic – eclamptic women in the period from (April 2007 to April 2011) in Mansoura teaching hospital attending obstetric care and intensive care units with complications of severe PE. All patients were subjected to complete history taking, general, abdominal, local examination (if needed). Laboratory investigations (hematological, renal, hepatic and urine analysis) and fundus examinations. After termination of pregnancy, 220 women were randomly selected and then subjected to immediate post-partum gentle curettage by the largest possible curette (170 Preeclampsia and 50 eclamptic patients). The other group, 200 patients (160 preeclampsia and 40 eclamptic) were not subjected to immediate postpartum gentle curettage (control). Exclusion criteria were any patients with previous cardiovascular, renal,

hepatic diseases, or those with hypertension prior to pregnancy, and patients with a previous history of convulsions whatever the etiology. Close observation of all patients during the post partum period included the clinical parameters (blood pressure measurement, the degree of consciousness), the ICU stay time, the occurrence or the recurrence of fits, hematological, renal and hepatic parameter as well as fundus examinations. The data obtained antenatal and post-natal then analyzed.

## Statistical analysis

Obtained data were statistically analysed using Statistics Package for Social Sciences computerized package (SPSS 11 Inc., Zonguldak Karaelmas University, Zonguldak, Turkey) using chi-squared test to compare differences in rates and P-value < 0.05 was considered significant.

**Table (1) :** gestational age in both groups:

Gestational age ( weeks )	Study group ( n=220)	Control group ( n=200)
24-30	40	50
30-34	70	55
35-37	95	85
38-39	15	10

The mean gestational age  $31.5 \pm 3.2$  weeks in both the study and control groups

**Table (2):** Clinical and laboratory parameters on admission and also mode of delivery

Patient characteristics (Clinic, lab. investigations and mode of delivery)	Study group ( n=220)	Control group ( n=200)
MAB ( mmHg)	$159 \pm 3.5$	$157 \pm 2.9$
Mean systolic blood pressure ( mmHg)	$169 \pm 3$	$165 \pm 4$
Mean diastolic blood pressure ( mmHg)	$108 \pm 4$	$107 \pm 5$
SGOT	$68 \pm 1$	$66 \pm 3$
SGPT	$42 \pm 3$	$41 \pm 2$
Serum creatinine	$1.3 \pm 0.2$	$1.2 \pm 0.3$
Platelet count	$120.000 \pm 25$	$125.000 \pm 20$
Serum uric acid	$5.2 \pm 2.1$	$5.1 \pm 2.5$
Patient from rural areas	150	160
Patient from urban areas	70	80
CS	125	130
Vaginal delivery	95	70

There no great difference in the data obtained from both the study "n=220" or the control group "n=200" even in the mode of delivery

**Table (3):** post operative evaluation of MAB after 12, then 24 hours

Hours after delivery	Study group	Control	P value
12	110.3	115.7	0.03
24	101.2	110.6	-

Despite MAB is still high in both groups 12 hours after delivery "110.3 and 115.7 in the study and control groups respectively" but it is much decreased in the study group after 24 hour "10.1 compared to 110.6 in the control group".

**Table (4):** Post operative fits

Time elapse after operation	Study	Control
24 hours	2	8
After 24 hours	-	3

No fit was encountered after 24 hours of delivery in the study group, while encountered in 3 patients of the control group.

**Table (5):** Liver and renal function after 24 and 48 hours

	Study ( 24 hours)	Control	Study ( 48 hours)	Control
SGOT	$68 \pm 3$	$66 \pm 1$	$39 \pm 2$	$45 \pm 4$
SGPT	$41 \pm 1$	$40 \pm 2$	$25 \pm 5$	$35 \pm 3$
Creatinine	$1.2 \pm 0.2$	$1.1 \pm 0.2$	0.7	0.9
Uric acid	$5.1 \pm 0.2$	$5 \pm 0.2$	$4.9 \pm 0.1$	$5 \pm 0.1$

Liver and renal functions were noticed to be decreased from first 24 hours and markedly after 48 hours in the study than the control group. The hospital stay time before discharge  $52.6 + 5.12$  hours in the study compared to  $78.2 + 3.12$  in the control group.

## Discussion

A majority of cases came from rural areas (150 in the study and 160 in the control groups nearly 73.8%), this might be explained by ignorance about the importance of ante-natal care as the majority of cases (85.5%) were un-booked. Similar findings have been reported by Chandra et al [14]. Antenatal care plays a significant role in early detection and management of pregnancy induced hypertension and prevention of eclampsia. Mean gestational age in our patients was nearly the same in both groups ( $31.5 \pm 3.2$  weeks) and this is nearly similar to that reported by Magann et al [15]. In our study, clinical and lab data "SGOT, SGPT, serum creatinine, uric acid, platelet count were nearly similar in both groups in almost equal magnitude at the time of admission. On the other hand, 24 hours postpartum, the MAP in the study group was significantly (P 0.03) reduced compared to that in the controls. The average time in hours taken for MAP to reach 105 mm Hg or less was  $40 \pm 3.15$  hours in the study group whereas  $86 \pm 5.34$  hours in the controls. Reestablishment of renal functions was noted to be rapid in those of the study group compared to controls (as evident by creatinine level,  $1.2 \pm 0.2$  after 24 hours and 0.7 after 48 hours in our studied patients while was  $1.1 \pm 0.2$  after 24 hours and 0.9 after 48 hours). Again; an adequate and higher urinary output in postpartum period leads to rapid disappearance of excessive extra-vascular extracellular fluid and edema, and thus to accelerated recovery from the disease process, the notice which was documented in our study group. Also values of liver functions (SGOT and SGPT) in cured subjects recorded a more rapid reversal to normal compared to those in controls. The difference in liver renal function was obvious from the second day but highly significant at 72 hours, as that found by Chandra et al

[14] and also Fejgin and Charles [15]. Meanwhile; Alkan et al [16] observed that uterine curettage performed in the postpartum period had favorable effects on blood pressure, platelet count, and urinary output and also helped in faster recovery from severe preeclampsia but with no difference between the curetted and non curetted groups with regard to liver function values. On the contrary Magann et al [17] found no significant difference at all in liver function and renal function tests at 24 hours postpartum. In our study we have found no significant difference in uric acid levels after 24 and 48 hours in both groups, contrary to Witlin et al [18] that reported uric acid levels being more accurately reflect the severity of as well as recovery from pre-eclampsia/eclampsia. Eventually we think that postpartum uterine curettage is useful for patients with severe preeclampsia that require faster recovery. In the present study, follow-up of the patients after the procedure and hospital stay time is much decreased than usual.

## Conclusion

Immediate postpartum curettage is a safe and effective procedure which accelerates recovery from preeclampsia and eclampsia, hence averting complications and decreasing the mortality and morbidity associated with this pregnancy related serious complications.

## References

1. Roberts JM, Pearson G, Cutler J, Lindheimer M Summary of the NHLBI Working Group on Research on Hypertension During Pregnancy. *Hypertension* 2003; 41:437-445
2. Chang J, Elam-Evans LD, Berg CJ, Hemdon J, Flowers L, Seed KA et al. Pregnancy-related mortality surveillance-United States 1991-1999. *MMWR Surveill Summ* 2003; 52(2):1-8
3. Sibai BM, Ewell M, Levine RJ, Klebanov MA, Esterlitz J, Catalano PM et al. Risk factors associated with preeclampsia in healthy nulliparous women. The Calcium for Preeclampsia Prevention (CPEP) Study Group. *Am J Obstet Gynecol* 1997; 177:1003-1010
4. Bombrys AE, Barton JR, Nowacki EA, Habli M, Pinder L, How H et al. Expectant management of severe preeclampsia at less than 27 weeks' gestation: maternal and perinatal outcomes according to gestational age by weeks at onset of expectant management. *Am J Obstet Gynecol* 2008; 199(3):247
5. Hnat MD, Sibai BM, Caritis S, Hauth J, Lindheimer MD, MacPherson C et al. Perinatal outcome in women with recurrent preeclampsia compared with women who develop preeclampsia as nulliparas. *Am J Obstet Gynecol* 2008; 186:422-426
6. Gaugler-Senden IP, Huijssoon AG, Visser W, Steegers EA, de Groot CJ. Maternal and perinatal outcome of preeclampsia with an onset before 24 weeks' gestation. Audit in a tertiary referral center. *Eur J Obstet Gynecol Reprod Biol* 2006; 128(1-2):216-221
7. Jantasing S, Tanawattanacharoen S. Perinatal outcomes in severe preeclamptic women between 24-33 (+6) weeks' gestation. *J Med Assoc Thai* 2006; 91(1):25-30
8. Sibai BM, Caritis S, Hauth J, National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. What we have learned about preeclampsia. *Semin Perinatol* 2003; 27:239-246
9. Duley L. Maternal mortality associated with hypertensive disorders of pregnancy in Africa, Asia, Latin America and Caribbean. *Br J Obstet Gynaecol* 1992; 99:547-53.
10. Hunter CA, Howard WF. A pressor substance (hysterotonin) occurring in toxemia. *Am J Obstet Gynecol* 1960; 79:838-46.
11. Pritchard JA, MacDonald PC, Gant NF. *Williams Obstetrics* 17th edn. Norwalk. Appleton Century Crofts. 1985:525-60.
12. Hunter CA, Howard WF, McCormick CO. Amelioration of the hypertension of toxemia by postpartum curettage *Am J of Obstet Gynecol*. 1961; 81:884-9.
13. Everett F, Magann EF, Martin J N. New onset hypertension in the pregnant patient. *Obstet Gynecol Clin North Am* 1995; 22:157-72.
14. Chandra M, Bhardwaj B. Our experience with use of magnesium sulfate in eclampsia. *J Obstet Gynecol India* 1998; 48:38-42.
15. Fejgin MD and Charles AG. *Obstet Gynecol*. 1993; 82(1):163-4.
16. Alkan A, Tugrul S, Oral O, Uslu H, Köse D, Catakli FT. *Clin Exp Obstet Gynecol*. 2006; 33(1):55-8.
17. Magann EF, Martin JN, Isaacs JP et al. Immediate postpartum curettage: Accelerated recovery from severe preeclampsia. *Obstet Gynecol* 1993; 81:502-6.
18. Witlin AG, Sadde GR, Mattar F et al. Risk factors for abruptio placentae and eclampsia: Analysis of 445 consecutively managed women with severe preeclampsia and eclampsia. *Am J Obstet Gynecol* 1999; 180:1322-9.