Abstracts

Progression of the first stage of labour, in low risk nulliparas in a South Asian population: a prospective observational study

Roli Purwar, Sunita Malik, Zeba Khanam & Archana Mishra (2021)

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We compared the labour pattern in the active phase of labour, defined at 4 cm versus 6 cm cervical dilatation, in a South Asian population. This was a prospective observational study where 500 low risk nulliparous women were recruited. Our aim was to study, the average labour pattern curve of all parturients. Mean duration of the active phase from 4 to 10 cm was 5.12±2.10 hours and from 6 to 10 cm was 2.79 ±1.72 hours. The 95th percentile values suggests that it takes 5–6 hours to progress from 4 to 6 cm and again 5–6 hours from 6 to 10 cm. The minimum labour progression rate can be as low as 0.5 cm/hour with vaginal delivery (VD) still being achieved. The slope of labour curve steepens after 6 cm, suggesting 6 cm as the onset of the active phase. Allowing labour to continue for a longer period before 6 cm of cervical dilation may reduce the rate of unnecessary intrapartum intervention and caesarean section (CS) for labour dystocia.

- Impact Statement
- What is already known on this subject? Friedman's definitions of normal labour and abnormal labour are widely accepted in current obstetric practises. Friedman's normal dilatation rate of 1 cm/h that is universally accepted is becoming questionable in our current obstetric population because of escalating rates of unnecessary labour interventions like oxytocin augmentation and CS.
- What the results of this study add? The rule of 1 cm/hour of labour progression cannot be applied to every woman and inappropriate interventions should be withheld until labour progression does falls below 0.5 cm/hour.
- What the implications are of these findings for clinical practice and/or further research? Six centimetres rather than 4 cm of cervical dilatation is a more appropriate landmark for the start of the active phase. Allowing labour to continue for a longer period before 6 cm of cervical dilation may reduce the rate of unnecessary intrapartum interventions and CS for labour dystocia.

A simple instrument to assess the risk of falling in postpartum women: the SLOPE scale (riSk of faLling in pOst Partum womEn)

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The purpose of this study was to introduce a novel instrument aimed at stratifying the risk of falling in postpartum patients. The research was a survey of a sample of 460 midwives working at different hospitals, mainly in Northern Italy, except for a hospital in Rome (Italy). The survey, consisting of 70 items, was conducted among midwives and asked them to express their opinion regarding the increased risk of falling in puerperal women on a Likert scale according to the characteristics listed in the questionnaire. Items were derived from the synthesis of scales available in the literature from settings other than the postpartum period, and interviews were conducted with midwives with great experience in this area. A shortened version was obtained using principal component analysis. A 30-item final scale was obtained, the SLOPE (riSk of faLling in pOst-Partum womEn), ranging from 0 to 100. The scale allows stratification of postpartum women at low (0–10), intermediate (10–20) and high risk (>20) of falling. The development of the SLOPE scale is the first step towards more rational evidence-based management of the risk of falling in postpartum women in current clinical practice.

- Impact statement
- What is already known on this subject? Falls occurring in the postnatal period are not limited to women because infants are often involved in this adverse event, with several significant consequences. There is a lack of information on this issue due to the absence of both registries and scales for the prevention of falls.

- What do the results of this study add? The main result of this study is the development of a novel scale to assess the falling risk in postpartum women.
- What are the implications of these findings for clinical practice and/or further research? The development of this novel scale, even if based on midwives' experience and not on patients' data, is a first step towards a more rational evidence-based management of the risk of falling in postpartum women.

Semiautonomous Treatment Algorithm for the Management of Severe Hypertension in Pregnancy

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Objective: To evaluate whether implementation of a semiautonomous treatment algorithm was associated with improved compliance with American College of Obstetricians and Gynecologists guidelines for rapid administration of antihypertensive therapy in the setting of sustained severe hypertension.

Methods: This was a single-center retrospective cohort study of admitted pregnant and postpartum patients treated for severe hypertension between January 2017 and March 2020. The semiautonomous treatment algorithm, which included vital sign monitoring, blood pressure thresholds for diagnosis of severe hypertension, and automated order sets for recommended first-line antihypertensive therapy were implemented between May 2018 and March 2019. The primary outcomes were the administration of antihypertensive therapy within 15, 30 and 60 minutes of diagnosis of severe hypertension. Comparisons were made between the preimplementation, during implementation, and postimplementation groups using χ^2. Analysis was limited to the first episode of severe hypertension treated. Statistical significance was defined as $P<.05$.

Results: In total, there were 959 obstetric patients treated for severe hypertension, with 373 (38.9%) treated preimplementation, 334 (34.8%) during implementation, and 252 (26.2%) after implementation. Treatment of severe hypertension within 15 minutes was 36.5% preimplementation, 45.8% during implementation, and 55.6% postimplementation ($P=.001$). Treatment within 30 minutes was 65.9% in the preimplementation group, 77.8% during implementation, and 79.0% in the postimplementation group ($P=.004$). There was no difference in percentage of patients treated within 60 minutes (86.3% before, 87.7% during and 92.9% after implementation, $P=.12$).

Conclusion: Implementation of a semiautonomous treatment algorithm for severe hypertension was associated with a higher percentage of pregnant and postpartum patients receiving the first dose of antihypertensive therapy within 15 and 30 minutes. Implementation of similar algorithms for this and other obstetric indications may decrease time to appropriate therapy and help improve care equity.

The incidence and prognosis of thrombo-embolism associated with oral contraceptives: Age-dependent difference in Japanese population

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Aim: We analyzed the incidence and prognosis of thromboembolism associated with combined oral contra-ceptives (COCs) by age groups in Japan.Methods:A total of 581 events of venous thromboembolism (VTE) and arterial thromboembolism (ATE)associated with COCs were analyzed from the Pharmaceuticals and Medical Devices Agency database from2004 to 2013. In a statistical analysis, a good-prognosis group included recovery cases and a poor-prognosisgroup involved unrecovered cases with some sequela and fatal cases. The significant difference between these two groups was calculated by Pearson's chi-square test, and the age-specific tendency and the trend of differences in prognosis according to different hormonal contraceptives were examined by Cochran–Armitage trend test.Results:A total of 543 events were analyzed except 38 events due to unknown age, in which DVT only wasthe most frequent, followed by cerebral infarction, PE with DVT, PE only, cerebral vein thromboses. ATE ratio for overall

thromboembolism tended to increase with advancing age (P= 0.0041). Good-prognosis group was common (291 cases in VTE and 83 cases in ATE), followed by poor-prognosis group (46 cases inVTE and 34 cases in ATE). All ATE cases had a significantly poorer prognosis in comparison with all VTEcases (P< 0.0001). Types of progestin and age difference, however, showed no trend in the differencesbetween good-prognosis group and poor-prognosis group (P=0.3548 andP= 0.6097).

Conclusion: Thromboembolic events were the most frequent in the 40s. The ATE ratio for overall thromboembolism tended to increase with advancing age. All ATE cases had a significantly poorer prognosis in comparison with all VTE cases.Key words:age groups, arterial thromboembolism, oral contraceptive, prognosis, venous thromboembolism

Top 10 Pearls for the Recognition, Evaluation, and Management of Maternal Sepsis.

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Maternal sepsis is an obstetric emergency and a leading cause of maternal morbidity and mortality. Early recognition in a pregnant or postpartum patient can be a challenge as the normal physiologic changes of pregnancy may mask the signs and symptoms of sepsis. Bedside assessment tools may aid in the detection of maternal sepsis. Timely and targeted antibiotic therapy and fluid resuscitation are critical for survival in patients with suspected sepsis. Once diagnosed, a search for etiologies and early application of source control measures will further reduce harms. If the patient is in septic shock or not responding to initial treatment, multidisciplinary consultation and escalation of care is necessary. Health care professionals should be aware of the unique complications of sepsis in critically ill pregnant and postpartum patients, and measures to prevent poor outcomes in this population. Adverse pregnancy outcomes may occur in association with sepsis, and should be anticipated and prevented when possible, or managed appropriately when they occur. Using a standardized approach to the patient with suspected sepsis may reduce maternal morbidity and mortality.

The effects of a music and singing intervention during pregnancy on maternal well-being and mother–infant bonding: a randomised, controlled study.

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Purpose: Stress and impaired mother–infant bonding during pregnancy can lead to adverse effects for the expectant mother and the unborn child. The present study investigates whether a prenatal music and singing intervention can improve maternal well-being as well as mother–infant bonding.

Methods: A total of 172 pregnant women took part in this prospective, randomised, three-armed (music, singing or control group) study. Depressive symptoms, self-efficacy, maternal well-being and mother–infant bonding were assessed with visual analogue scales and questionnaires before the intervention phase (30th week of gestation) and afterwards (36th week of gestation). Additionally, immediate changes regarding experienced stressand mood from before until after the music and singing interventions were explored with questionnaires as well as saliva samples (for cortisol, alpha-amylase and oxytocin determination).

Results: Regarding immediate effects, both interventions showed positive effects on the emotional state, stress (cortisol) and bonding (oxytocin). Additionally, the singing group showed a larger reduction in cortisol and a larger improvement in valence than the music group. Looking at more prolonged effects, significant effects on general self-efficacy and perceived closeness to the unborn child (measured with a visual analogue scale) were found. No significant effects were revealed for the mother–infant bonding questionnaire and for depressive symptoms.

Conclusion: In the present study, promising effects of music and in particular singing on maternal well-being and perceived closeness during pregnancy appeared. Prenatal music and singing interventions could be an easy to implement and effective addition to improve mood and well-being of the expectant mother and support mother-infant bonding.