

**TITLE** SILENT MYOCARDIAL ISCHEMIA IN HEALTHY PATURIENTS DURING CESAREAN DELIVERY  
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Isolated ST segment abnormalities are common during cesarean delivery.(1) The time course and duration of these abnormalities, however, have not been defined. Therefore, with the aid of continuous ECG monitoring, we prospectively investigated the prevalence and duration of ECG defined myocardial ischemia during cesarean delivery under regional anesthesia.

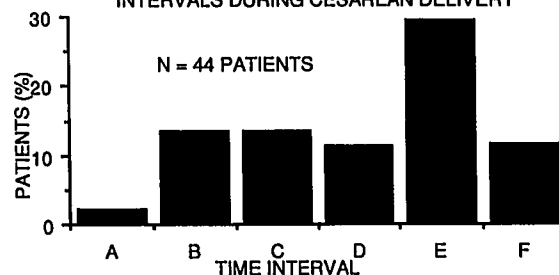
**METHODS:** 44 unselected ASA I or II patients were monitored (SpaceLabs ambulatory ECG 90205/FT2000 analysis system, bipolar leads V3 and V5) from immediately prior to induction of regional anesthesia for nonemergent caesarean delivery through the early postoperative period (mean ~ 16 hrs). Myocardial ischemia was defined as either  $\geq 1$ mV horizontal or downsloping ST segment depression or  $\geq 2$ mV ST segment elevation in one lead at 60 msec after the J-point for at least 1 minute.

**RESULTS:** (figure) A sensory level of T3 to T5 was achieved in all patients. Myocardial ischemia was present in 39% (17/44) of patients. Only two patients (2/17) with ischemia had chest pain which occurred after a prolonged period of ECG changes. The mean duration of ischemia was 15 minutes (range 1-57 minutes). Mean heart rate at the onset of significant ischemia was 119. In eight patients (8/17) the onset of ischemia was abrupt while the remaining nine patients (9/17) experienced a gradual

depression of ST segments.

**DISCUSSION:** Using continuous ECG recording, we observed a strikingly high prevalence of asymptomatic myocardial ischemia in a group of patients without antecedent cardiac disease. These events, coupled with reports of peripartum myocardial infarctions in women with normal coronary arteries, suggest the need for intensive electrocardiographic surveillance for ischemia during all stages of cesarean delivery.(2)

PREVALENCE OF MYOCARDIAL ISCHEMIA AT DIFFERENT TIME INTERVALS DURING CESAREAN DELIVERY



A = prior to induction  
 B = induction to skin incision  
 C = skin incision to uterine incision  
 D = uterine incision to delivery  
 E = delivery to recovery room  
 F = postop

#### REFERENCES:

1. Anesth Analg 70:36-43, 1990
2. Cardiology 76:455-460, 1989

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**TITLE:** IS THROMBOELASTOGRAPHY USEFUL FOR THE EVALUATION OF COAGULOPATHIES IN HIGH-RISK PARTURIENTS?  
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Thromboelastography (TEG) is an excellent monitor of coagulation during liver transplantation procedures. Because TEG gives more clinically useful information than does the standard coagulation profile (SCP), we evaluated its usefulness in pregnant patients at risk for developing coagulopathies.

Six patients with either severe pre-eclampsia or eclampsia necessitating induction of delivery of their preterm infants, and one with a placental abruption at 36 weeks gestation resulting in fetal demise were studied. SCPs consisting of prothrombin time, partial thromboplastin time, platelet count, and concentrations of fibrinogen and fibrin split products were obtained at least every 6 hours throughout the pre-delivery and immediate postpartum periods until any coagulation deficiency was resolved. As soon as the anesthesiologist was consulted prior to delivery, the TEG was

added to this battery of tests. The influence of the TEG on subsequent treatment was evaluated retrospectively.

Pt. #	Diagnosis from SCP	Diagnosis from TEG
1	Severe thrombocytopenia	No abnormality
2	No abnormality	Hypercoagulable
3	No abnormality	Hypercoagulable
4	No abnormality	No abnormality
5	No abnormality	No abnormality
6	Thrombocytopenia	No abnormality
7	DIC with late severe thrombocytopenia	Coagulation factor deficiencies

In patients 2,3,4 and 5, the TEG data did not alter patient management. In contrast, patients 1 and 7 were spared excessive transfusion of blood components because of the TEG results. Similarly, patient 6 was able to receive an epidural rather than a general anesthetic for her Cesarean section. We conclude that the TEG is an important addition to management of the critically ill parturient.

#### Reference:

- Kang YG, Maritu D, Marquez J, et al. Anesth Analg 1985;64:888-897