

## Perimortem cesarean delivery

Nagarsenkar Ajit A<sup>1</sup>, Nevrekar Prasad P<sup>1</sup>, Pednekar Guruprasad<sup>1</sup>,  
Jindal VN<sup>2</sup>, Ponraj Sundaram<sup>2</sup>

<sup>1</sup> Department of Obstetrics and Gynecology and <sup>2</sup> Department of Neurosurgery, Goa Medical College, Bambolim, Goa

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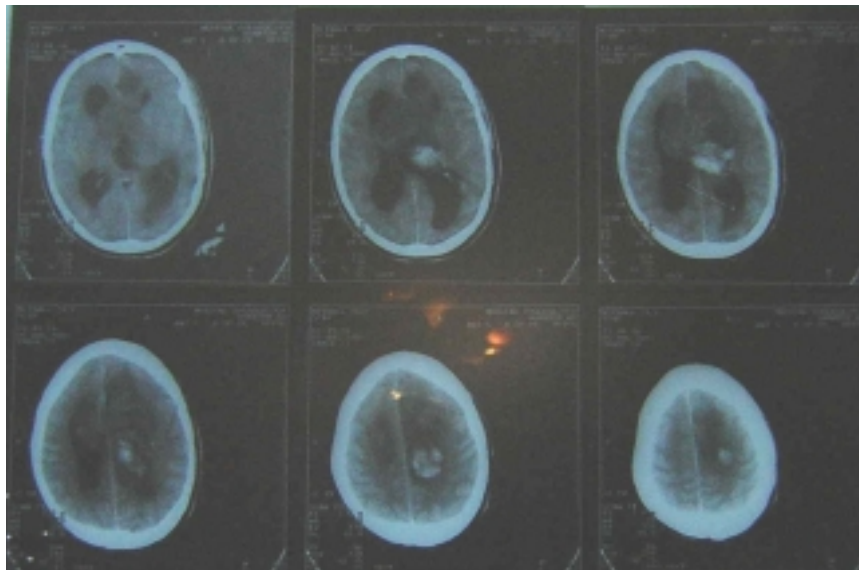
### Case report

A 28 year old primigravida married for 8 months, presented to medical department at 21 weeks of gestation with history of ataxia and behavioral disturbances in the form of irrelevant talk, noncomprehending nature, and urinary incontinence of 15 days duration. She had an uneventful pregnancy, had received two injections of tetanus toxoid, and all investigations were within normal limits.

On examination, she was conscious but not well oriented

in time, space, and person. Her vitals were stable. Pupils were not reacting to light, and there was no nystagmus, ptosis or diplopia. She had left supranuclear facial palsy and hypertonia of left upper and lower limbs with power of grade II/III. Her plantars were flexors.

Fundus showed papilledema. CT scan of the head showed corpus callosum glioma with extension to the 3<sup>rd</sup> ventricle and supra-ependymal spread (Figure 1).



**Figure 1.** CT Scan showing corpus callosum glioma.

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Correspondence :

Dr. Ajit Nagarsenkar  
Department of Obstetrics and Gynecology,  
Goa Medical College, Bambolim, (Goa).

Impression was primigravida at 21 weeks pregnancy with glioblastoma. The lesion being extensive complete excision was ruled out and biopsy with radiotherapy was proposed. She was treated with intravenous mannitol, decadron and dilantin, and oral glycerol. Husband and relatives refused consent for radiotherapy and she was discharged against medical advice. Subsequently, she was readmitted in the department of neurosurgery at 25 weeks and again at 29 ½ weeks of gestation for episodes of grandmal epilepsy, and was treated with injection dilantin and discharged on request.

At 30.1 weeks she was readmitted with seizures and altered sensorium. At 32 weeks whilst in the hospital she became comatose not responding to oral commands or deep painful stimuli and her breathing became labored. Both pupils were small and not reacting to light.

She was deteriorating. After discussion with her husband and relatives, and in view of the malignant tumor and her deteriorating condition perimortem lower segment cesarean section was done at 34 weeks. A baby girl weighing 1.67 kg with apgar score of 8/10 was delivered.

Subsequently, after 24 hours she was operated upon by neurosurgeons. Transsagittal right fronto-parietal craniotomy with decompression of corpus callosum glioma was done under general anesthesia. She was shifted to ICU, where she expired 3 days later. Baby was discharged in good condition on 21<sup>st</sup> postnatal day.

Histopathology report of the tumor was gamatoaplin astrocytoma grade III.

## Discussion

Postmortem cesarean section was first performed to free the child from the dead mother so that she would not be the infants coffin. Later, cesarean section was performed on the dying mother in a desperate attempt to save the infant and ultimately, on the living mother so that both the mother and the child could be saved i.e. perimortem cesarean <sup>1</sup>.

Ideally in an institutional set up the four minute rule i.e.

delivery of baby done within 4 minutes of the mother suffering a cardiopulmonary arrest should be applied as there is enough evidence to show that with this the infants outcome is better <sup>2</sup>. Survival of infants in all studies ranges from 11 to 40%. Ninety-eight percent infants delivered before 4 minutes will be neurologically intact. The other factors, on which an infant's survival depends, include fetal lung maturity, availability of personel and equipment for cesarean section, and effective neonatal resuscitation <sup>3</sup>.

The longest reported fetal survival is upto 25 minutes after maternal death <sup>2</sup>. Perimortem cesarean not only improves the chances of fetal survival but also aids in improving resuscitative efforts for the mother. This is because, the cardiac output is only 30% on external chest compression in a nonpregnant state. This is even lower in advanced pregnancy when aortocaval compression from the enlarged uterus may impede resuscitative efforts by diminishing forward flow as well as venous return. Hence, uterine displacement is essential to help other resuscitative measures.

Medicolegal questions can be raised regarding inappropriate diagnosis of cardiac arrest, neurologically damaged child, mutilation of a corpse etc. But all said and done an operation performed to save an infant would not be wrongful and the obstetrician acting in good faith is unlikely to be held responsible for any wrong doing in the court of law <sup>4</sup>.

Gamastracytic astrocytoma has the most malignant potential amongst all known astrocytomas. Review of various studies of perimortem cesarean and of text books do not make a mention of this indication for perimortem cesarean.

## References

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