

## CASE REPORT

# Anesthetic Implications in a Primigravida Posted for Cesarean Section with Varicella Zoster Infection

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## ABSTRACT

Varicella zoster (VZ) is a highly contagious deoxyribonucleic acid (DNA) virus. Varicella zoster infection (VZV) causes two distinct diseases; chicken pox as the primary infection and later when VZV reactivates shingles or herpes zoster. This infection has its clinical presentation as high fever followed by generalized vesicular lesions. Pruritic skin lesions start after 1 to 2 days of fever on the face and then progressed to all over body becoming pustular.

The diagnosis of chickenpox is performed on the basis of clinical history and clinical classical sign and symptoms. It is a mild and self-limiting disease in children but severe complications like pneumonia, hepatitis, meningitis, encephalitis and bleeding diathesis can occur in adult and immuno-compromised person. We present the case of a primigravida with varicella who was posted for an emergency cesarean section and successfully managed.

**Keywords:** Anesthesia, Cesarean section, Pregnancy, Varicella zoster.

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## INTRODUCTION

Varicella zoster is a highly contagious DNA virus. The mode of spread of the virus is through respiratory droplets

or direct contact. The incubation period is 10–14 days.<sup>1</sup> For mother, the risk for illness is greatest in the second trimester, for fetus the risk of congenital infection is maximum in the first and second trimester. In the present case report, we highlight a case of a primigravida in the acute phase of infection and with fetal distress was posted for emergency cesarean section. Key issues regarding choice of anesthesia, pre- and postoperative care and complications are discussed.

## CASE REPORT

A 30-year-old primigravida of 33 weeks presented herself to the emergency department with a history of fever, malaise, breathlessness, palpitations and chest pain from two days followed by the development of rash. She was uncertain about the immunity of varicella. On admission, the patient was febrile, P/R was 120/minute and BP—140/90 mm Hg. Extremities, face, trunk, back were covered with lesions. On auscultation chest was B/L clear and S1 S2 heart sounds were present with no murmur. Ultrasonography is done which shows intrauterine growth restriction (IUGR) and oligohydramnios. Laboratory tests were done. Non-stress test (NST) was non-reassuring. There was decreased fetal movements. The patient was taken up for emergency cesarean section in view of decreased fetal movement and oligohydramnios after taking high-risk consent in view if inadequate nil by mouth (NBM), preterm labor and acute stage of the disease.

Preoperative management was given. Tablet acyclovir 800 mg and applied silvermax ointment on lesions. Metoclopramide 10 mg and ranitidine 50 mg IV was given 15 minutes before induction. We optimize the patient with bronchodilators. On examination just before induction, there were extensive skin lesions on back. We decided to give general anesthesia. NIBP, ECG, SPO<sub>2</sub>, EtCO<sub>2</sub> monitors attached. Rapid sequence induction was done by using thiopentone 5 mg/kg IV and succinylcholine 1.5 mg/kg IV Endotracheal intubation was performed by using cricoid pressure. A healthy male baby with good appearance, pulse, grimace, activity, respiration (APGAR) score was delivered no varicella lesions on the baby was seen.

Following baby delivery, we give IV midazolam, IV dexamethasone, IV antibiotics, and oxytocin infusion. Extubation was done after giving reversal and after confirmation of spontaneous respiration. The patient was

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shifted to postoperative care in stable condition with the advice to continue tab. acyclovir to mother. Varicella zoster immunoglobulin administered to the neonate.

## DISCUSSION

Varicella causes an acute and highly contagious disease—chickenpox, which is mildly self-limiting in childhood but associated with severe complications in adult and immunocompromised person. Associated complications include secondary bacterial superinfection of skin generally by *Streptococcus pyogenes* or *Staphylococcus aureus*. *Varicella pneumonia* being the most common complication following infection, other complications include myocarditis, corneal lesions, nephritis, arthritis, bleeding diathesis, acute glomerulonephritis and hepatitis in adults.<sup>2</sup> Skin lesions, neurological and eye defect, IUGR, hypoplasia and developmental delay can be due to direct viral damage during development in congenital varicella syndrome.<sup>3</sup>

Maternal varicella has several implications for the anesthetist. Spinal or epidural block may expose CNS system to the virus with resultant meningitis or encephalitis, camann and toumala advised against regional block for at least 14 days after varicella symptoms.<sup>4</sup> However, regional anesthesia has been the choice in a pregnant patient with acute varicella instead of GA because of the risk of pneumonia.<sup>5</sup> Also, spinal anesthesia has been used safely in a parturient with human immunodeficiency virus (HIV) infection.<sup>6</sup> Brown et al. suggested that the use of a blunt tip needle instead of a sharp tip needle may reduce the risk of introduction of viral material into the CNS.<sup>7</sup>

Sites et al. reported a case where extensive vulvar and vaginal lesions necessitated abdominal delivery. In this patient general anesthesia was preferred over spinal anesthesia due to extensive skin lesions on back.<sup>8</sup>

Disease contamination should be a matter of concern for attending the doctor. Data indicate that preventive vaccination is effective within 3–5 days of exposure.<sup>9</sup> Vaccination is the preferred method in susceptible health workers and healthcare settings for prevention.<sup>10</sup>

A case reported by Nandini et al. which was published in IJA also concluded prophylactic administration of zoster immunoglobulin to susceptible medical personnel is strongly recommended.<sup>11</sup>

## CONCLUSION

The patient should be thoroughly inquired for prior infection. If the patient is uncertain about immunity to

varicella, we first do varicella zoster IgG serology and according to the serological status of the patient give varicella zoster immune globulin or acyclovir or valacyclovir; however, varicella vaccine is contraindicated during pregnancy. Oral or IV acyclovir can be advised depending on the severity of the infection.

Regional as well as general anesthesia have been used for cesarean section in a parturient with varicella but the technique of anesthesia depending upon the various factors, e.g. site of infection, the involvement of vulvar and vaginal lesions, duration of illness and illness associated with respiratory problems like pneumonia.

## SUMMARY

A primigravida with the acute phase of varicella infection presenting for cesarean section.

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