Guillain-Barré syndrome during Pregnancy: A challenge for the Anesthesiologist

INTRODUCTION: A 25-yr-old Primigravida, G1P0 parturient, female (height 5â€™ 5â€• and Weight 172 lbs) with known history of Guillain-Barré syndrome (diagnosed and treated at 12 years of age) presented to L&D for onset of labor at 40.6 weeks gestation. At age 12, patient was diagnosed with Guillain-Barré syndrome requiring ventilator support with tracheostomy. She denied frequent falls, hemiplegia, difficulty breathing, diplopia, incoordination or numbness. Physical exam was significant for mild weakness in both lower extremities but no weakness in her upper extremities. She ambulates slowly, but denied tingling or numbness in the lower extremities. She was not on any medications for Guillain-Barré syndrome except prenatal vitamins. Labs: Hgb 11.0, Hct 31.6, WBC 10.5, and Plts 164. On admission, patient refused epidural block. But after few hours, with the progression of labor patient requested for epidural analgesia. After a discussion with her regarding risks, benefits, and informed consent, on the day of the admission, the epidural was performed using a strict aseptic technique. The L4-L5 level was identified, following lidocaine local injection. A3.5 inch, 17 gauge epidural needle was passed at the midline through the skin wheal and advanced in a ventral direction into the lumbar epidural space using the loss of resistance to air technique. Epidural catheter was left 5cm into the epidural space. Patient initially received 4X5ml of ropivacaine 0.1% +sufentanil 1mcg/ml via epidural and then continuous infusion of 8ml/hr, PCA dose 5ml, with lockout interval of 5 min. After 5 hours, when patient was diagnosed with arrest of labor, after discussion with the obstetrician, the anesthesia team and the patient decision was made to provide epidural anesthesia for cesarean section (C-section). The patient received 2% lidocaine with fentanyl (5 mcg/ml) and epinephrine (5 mcg/ml). The patient received 4 divided dose of lidocaine and fentanyl. The injection was made incrementally with constant monitoring every 5 mlâ€™s with negative aspiration of CSF or blood. The epidural provided adequate T4 sensory block. A low transverse C-section was performed and a live male infant (Apgar 9/9) was delivered without complications. Following surgery patient received epidural analgesia for post C-section pain with ropivacaine 0.025% and fentanyl 3mcg/ml, at 15ml/hr, 4ml PCA dose and lockout time 10 minutes for 48hrs. She was discharge on post-op day 3 without any flare up of the disease or any other complications. Two weeks later on follow-up patient did not have any complications.

Discussion: Guillain-Barré syndrome (GBS) is an autoimmune disorder which can present as an acute inflammatory polyradiculoneuropathy with resultant weakness and diminished reflexes. The incidence of GBS 0.62 cases to 2.66 cases per 100,000 person-years across all age groups, with a relative risk of 1.78(1). Classically, it can present as an symmetrical progressive ascending weakness due to demyelinating neuropathy which can be life threatening unless treated with intravenous immunoglobulin (2). Pregnant patients can present with GBS in any trimester due to a preceding URI or gastroenteritis, but with higher susceptibility during the third trimester and in the
immediate postpartum phase. As the ascending weakness develops patients may develop paralysis, tingling, ataxia, ophthalmoplegia and respiratory paralysis due to involvement of the diaphragm. Maximal inspiratory pressure on Pulmonary function test can be assessed to ascertain the strength of the diaphragm. Other investigations like nerve conduction velocity /Nerve EMG can be performed to look for nerve conduction slowing and prolongation of the distal latencies. The CSF analysis will show albuminocytologic dissociation with very high protein and normal cell count. After the acute phase most of the patients who do not have neurologic sequelae can undergo C-section with epidural or spinal anesthesia safely. We preferred epidural block which provided adequate labor pain relief for C-section and post C-section pain control. Patient requested and received the epidural block following discussion of its risks and benefits. In patients with history of GBS epidural block may be an option for labor and delivery.

