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CASE REPORT

Spinal Myoclonus after Sub-Arachnoid Block: A Case Report

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SUMMARY

Spinal myoclonus is a rare and less known sequel e after central neuraxial blocks and hereby we present a case of 68 yrs old lady undergoing removal of infected femur implant under sub-arachnoid block (SAB), developing myoclonus after the procedure ended but before regression of block. It was treated successfully with an infusion of lignocaine and magnesium sulphate. The patient was called in for follow-up after one week and had no any complains thereafter.
Keywords: Spinal myoclonus, sub-arachnoid block, neuraxial block

INTRODUCTION

Spinal myoclonus is defined as repetitive movements due to involuntary muscle contractions usually involving extremities but can also involve the trunk causing opisthotonus[1]. However there is never loss of consciousness[2]. The exact mechanism is not known as to why it develops in some patients but a lot of causes have been listed either due to diseases involving the spinal cord (cord compression due to abscess, tumours or bleeding) or due to demyelinating diseases, paraneoplastic syndromes, trauma to the spinal cord and drugs injected into the sub-arachnoid space like local anaesthetics, different adjuvants, radiocontrast agents and even a catheter placement can trigger it[3-6]. We present to you a case of spinal myoclonus developing after SAB given for removal of infected femur implant[7-10].

CASE REPORT

We present to you a case of a 68 years old lady with no known comorbid conditions except that she was hepatitis C positive (anti-HCV positive). She already had been operated on her left thigh twice and a femur implant had been placed for femur fracture due to a fall 8 years back. Now she presented with fever and pain in the same leg and was diagnosed to have infected implant and a plan was made to remove the infected implant.

The patient was scheduled for removal of infected implant. On preoperative assessment patient was found to have signs of infection (fever, tachycardia). All the investigations were within normal limits including LFTs and coagulation profile except that her platelet count was 120,000, TLC was 14000 as well as CRP and ESR were also raised.

On the morning of surgery, patient had normal vitals in preoperative holding area except for a tachycardia of about 112 bpm. A line of 18G was taken and was preloaded with 400 mls of ringers lactate.SAB was given at L3-L4 space using 25G quincke needle in sitting position with 15 mg heavy bupivacaine. After 3 minutes of block was assessed and surgical team proceeded. The surgery was completed in 1hour and 57 minutes in lateral decubitus position. Approximate blood loss was around 400 mls and total fluid of about 1 litre given intraoperatively. Patient remained vitally stable throughout the procedure and was shifted to recovery area at the end.

After about 20 minutes in the recovery area patient started complaining of moderate to severe pain in left leg (non-operated leg) for which she was given 1gm paracetamol and 400 mg ibuprofen infusions but without relief. Meanwhile patient was assessed for block regression (patient still had complete motor and sensory block of both legs), nerve injury due to lateral intraop positioning as well as psychological component since patient's heart rate had been in normal range now and there was not any tachycardia. However after about 20 minutes of pain onset patient developed involuntary muscle contractions of left leg which coincided with sudden bouts severe pain.

Patient was labeled to have spinal myoclonus and immediately an infusion of 2 grams magnesium sulphate and 40 mg of lignocaine was given in about 10 minutes . At the end of infusion patient's pain as well as myoclonus subsided completely.

Patient's recovery remained uneventful thereafter and she was discharged from hospital on second postoperative day. Follow-up was done after one week and the patient had no any complains and was recovering well. However on the follow-up visit patient told about a similar incident after her first sugery of implant placement 8 years back under SAB which she had not shared at the preoperative assessment visit.

DISCUSSION

Spinal myoclonus may or may not be restricted to limbs or any one segment, infact it can affect multiple areas, a single muscle or groups of muscles. It may develop minutes after the intrathecal block or may take hours to days to develop. In our case patient developed after about 2 hours of SAB. The exact mechanism and its incidence is not known yet but it is agreed upon that spinal myoclonus is stimulus sensitive and it can be affected by sleep, anaesthesia and coma unlike other forms of myoclonus. A striking feature in our case report is that the patient reported a similar incident following SAB few years back which we believe is the first time ever to be reported (twice in the same patient following SAB each time).

Many drugs have been implicated in the management of spinal myoclonus including benzodiazepines (for e.g midazolam, clonazepam), anti-convulsants (sodium valproate, leveteracetam, piracetam, carbamezepine), anti-depressants (fluoxetine)(14) and lipid emulsion(15). Treatment options can also include botulinum toxin, surgery or TENS therapy if the myoclonus is due to tumour or any other organic disease.

In our case report, we used magnesium sulphate infusion owing to its sedative and muscle relaxant effects alongwith lignocaine infusion.

CONCLUSION

We report this case because spinal myoclonus is a rare occurrence and hence is difficult to diagnose. Also patients should be inquired in great detail regarding their history. An anaesthesiologist must keep in mind such rare sequelae in order to respond systematically if such an incident occurs.

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