PROLONGED UNILATERAL NEUROLOGICAL DEFICIT OF LOWER LIMB AFTER SPINAL ANAESTHESIA FOR LOWER SEGMENT CESAREAN SECTION

Jawad Khan, Sarfraz Khan Janjua, Noureen Jawad

Combined Military Hospital, Rawalpindi

INTRODUCTION

Over the past few years, spinal anaesthesia has almost practically replaced general anaesthesia for caesarean sections. Severe neurological deficits after spinal anaesthesia are rare. In a prospective study of 40,640 cases of spinal anaesthesia, the authors reported an incidence rate of serious neurological deficits of 0.5 per 10,000 (confidence interval 0.2-1.1 per 10,000) [1]. Neurological complaints are mostly due to factors associated with prolonged labour and delivery. However the majority of complications were attributed to contamination of needles, toxic drug reactions or due to subarachnoid injection of large doses of local anaesthetics. Here we are reporting a unique complication of spinal anaesthesia resulting in prolonged unilateral neurological deficit.

CASE REPORT

Our patient a 31 year old second gravida with a single alive female baby was admitted at pregnancy of 37 weeks with gestational diabetes mellitus and polyhydroamnios. She underwent an emergency caesarean section for faetal distress under spinal anaesthesia. Spinal anaesthesia was performed by injecting 0.75% hyperbaric bupivacaine(Abocaine spinal) 1.5 ml at L3-4 interspace with the patient in the sitting position using a 25 gauge needle after verification of free flow of cerebrospinal fluid. Neither a tingling sensation nor a jerk was felt by the patient during the introduction of the spinal needle. Her surgery was performed successfully and a healthy male baby was delivered. About six hours after the surgery, she complained of persistent numbness and weakness of her right lower limb where as the left lower limb recovered from anaesthesia completely. On examination she was having complete sensory and motor deficit of her right lower limb. On 3rd post operative day her sensory deficit recovered to the extent that she could feel the sensation of prick, pain and pressure. On the 5th post operative day, she was able to walk by dragging her right lower limb. Her Computed tomography (CT) scan and Magnetic resonance imaging (MRI) revealed no abnormality. Neurosurgeon was consulted who advised psychological reassurance, mobilization of the patient and tablet gabapentene 300 mg in gradually increasing dose upto 2400 mg per day which was continued for four weeks. On 21st day her motor power was 04/05. After about one month her right lower limb recovered completely.

DISCUSSION

Now a days spinal anaesthesia has become the technique of choice for caesarean sections. The incidence of severe neurological deficits following spinal anaesthesia is low [2]. But when they do occur, they are of great concern to both the patient and the practitioner [3]. Despite the low incidence, many patients reject spinal anaesthesia because they fear this complication [4]. The obstetric population constitutes a large homogeneous group of young healthy patients receiving spinal blockade offering the possibility of studying the inborn risk of the technique as such [5].Traumatic lesioning of the nerves by the needle is unlikely in this case as there was no clinical indication of neuronal contact by the needle and the signs and symptoms of rediculopathy were absent in this case. The findings in our case were prolonged unilateral sensory and motor deficits that lasted up to four weeks which

Correspondence: Lt Col Sarfraz Khan Janjua, Classified Anaesthesiologist, Combined Military Hospital Peshawar

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might be due to increased toxicity of undiluted local anesthetic or subdural entrapment of the drug leading to prolonged effect. However the exact cause of prolonged sensory/ motor deficit in this case is unexplainable. Selander et al, had already described that there is an experimental basis for proposing peripheral intraneural injection and retrograde intraneural dissection of local anaesthetic into spinal cord i.e., the theory of causation[6], including increased toxicity of undiluted local anaesthetic [7]. It is important to acknowledge that neurological complications associated with pregnancy and labour are considerably more common than complications after spinal blockade [8]. Previously cases have been reported of paraplegia due to postpartum cerebral ischemia after dural puncture [9]. The most common cause found in these cases was cerebral vasospasm due to lumbar puncture [10]. Possibility of epidural haematoma or abscess was unlikely in our case because neither the clinical picture was suggestive of nor there was any supporting radiological or laboratory finding.

Despite extensive search of literature we have not found any case of unilateral prolonged effects of spinal anaesthesia. Usually it is due to injury to nerve root or intraneural injection which is very painful. The patient feels a jerk at the time of insertion of the needle. Although neurological complications due to regional anaesthesia are very rare in obstetric patients, it is more likely that these complaints are due to factors associated with labour and delivery which are usually bilateral [11]. It is imperative to explore the possible deficits related to regional anesthetic techniques. A careful history, physical examination, laboratory workup and use of imaging techniques will help to ensure an accurate diagnosis and appropriate measures will result in good outcome.

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