

Blindness in Postpartum Period: Spinal Analgesia or Pre-Eclampsia Caused It?

Pages with reference to book, From 225 To 226

Madam, I am writing to register my comments on a recently published case report pertaining to a young female patient who received analgesia for labour and subsequently went on to develop serious complications¹.

Of late, a safe and reliable method of providing labour analgesia has become available in the form of lumbar epidural analgesia². This modality is obtainable even at some of the smaller community hospitals in Karachi and one fails to understand why it was not utilized for the unfortunate patient being discussed. Instead, for reasons that seem entirely inscrutable, the patient received spinal anesthesia, an obsolete method of controlling labour pain, after becoming “unmanageable”. The method employed seems unusual for several reasons; spinal anesthesia (using a whopping 12.5 mg of Bupivacaine, which would have been more than adequate anesthesia for major abdominal surgery, let alone only providing sensory, not motor, blockade for labour analgesia) is no longer used for relieving labour pains². Similarly, using a 22 gauge spinal needle for puncturing the dura of a young parturient is akin to using a garden hose to cannulate a peripheral vein³⁻⁶. For this to have been done in a teaching hospital in a city where 25-27 gauge “atraumatic, non-cutting, pencil-point” spinal needles are easily available, to a young nurse, is astonishing (young parturients comprise the highest risk group viz a viz development of PDPH after dural tap³). The incidence of PDPH after deliberate dural puncture with a beveled needle is not 1-2%, as erroneously asserted by the authors in the report, but actually closer to 7%⁸ and this is with much finer needles as compared to the huge 22 gauge cutting needle used in this case, which would be expected to produce a much larger hole in the dura. Severe PDPH in this case was therefore very likely to develop⁷ and for this reason alone the technique employed for providing labour analgesia was flawed. Also, the complete motor paralysis that follows this technique renders the patient entirely incapable of pushing during the second stage of labour. What is perhaps worst is that single-shot spinal anesthesia is very likely to wear off well before the delivery of the baby, especially in primigravidas whose labour tends to be longer. All of these disadvantages would have been obviated had “continuous infusion epidural analgesia” been used instead.

The day following her deliberate dural tap, the patient, as expected, developed PDPH. Again for reasons that are baffling to say the least, this was managed conservatively despite a progressively worsening clinical course. The protocol for the management of PDPH at most centers is to administer an epidural blood patch (an injection of autologous blood into the ‘epidural or extradural space’) like PDPH has not resolved within 24 hours^{7,8}. To withhold this instantly efficacious treatment despite progressively worsening symptoms of PDPH to the extent that the patient becomes blind seems disturbingly similar to the infamous Tuskegee Syphilis Study in the United States where a team of government commissioned doctors deliberately left a group of syphilitic black American males untreated, despite the availability of antibiotics, in a staid attempt to study the natural course of this terrible disease⁹. The authors, displaying crushing naivete, failed to find any instances in the world literature where PDPH had led to blindness. The obvious reason for this “surprising” fact is that in no other center would PDPH be allowed to run its unrelenting course without medical intervention.

The reasons for the authors of this case report to entertain alternative, albeit implausible, causes of this patient’s symptoms while ignoring the obvious are hard to fathom. In the situation described, prior to labeling the patient “neurotic”, obtaining psychiatric and neurologic consults and most certainly before poking more holes into her dura for obtaining CSF, she should have undergone an epidural blood patch

which, at best, would have relieved her symptoms immediately, thereby saving her from the various costly investigations and suffering that she was made to undergo and at worst, would have ruled out PDPH conclusively so that alternative diagnoses could be confidently considered.

Now for the alternative diagnosis for this patient's condition. In a patient with an absolutely normal ante-natal course to suddenly develop blindness due to pre-eclampsia (the appropriate terminology should be post-eclampsia), alter the delivery of the baby, is unlikely to say the least and for this pre-eclampsia to exist in such a severe form without any other co-existing signs and/or biochemical evidence like edema, proteinuria, seizures, coagulopathy, etc. is unheard of¹⁰. Her mildly elevated blood pressure was probably due to the pain that she was experiencing and it would have reverted to normal levels after her pain was controlled.

The CT and CSF findings are not entirely inconsistent with what one would expect after traumatic dural puncture. Signs of inflammation are always to be found after injury. It is also known that the brain "sinks" towards the foramen magnum in the face of a declining CSF pressure. To date nobody has conducted a study on the CT/MRI findings in patients with PDPH, yet it seems probable that the radiological findings encountered in this patient were consistent with the same.

The fallout of a case report like this can be far-reaching and very damaging. Doctors in training and elsewhere, might be misled into believing that since spinal anesthesia with a 22 gauge cutting needle, utilizing 12.5 mg of Bupivacaine (which is about 12 times more than what would have been entirely adequate), is being used in a university hospital in Karachi, it may be the standard of care. Also, in a country where there is so much tolerance for labour pain and so much resistance against labour analgesia amongst obstetricians, this case report may be used as an argument against providing analgesia for labour. Contrast this with the situation in the developed countries where epidural analgesia is employed in over 90% of parturients who come to deliver their babies in hospitals where such services are available. As the authors have very rightly pointed out, this case has medico-legal implications. They should therefore be thankful for the fact that ours is not a litigious society.

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