

Neurological complications of obstetric RA

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IN GENERAL, THE PUBLIC SEE Pregnancy and labour as natural events. – “Natural” is invariably seen as “safe” or “risk free” and without any serious side effects. Regional Anaesthesia (RA – ie epidural, spinal, or CSE) is seen as “unnatural” or “high risk” and thus post partum neurological complications of childbirth are frequently blamed on RA.

However, for some time it has been appreciated that pregnancy and labour, while “natural” are certainly not risk free and may result in temporary or permanent neurological damage of varying severity. In addition a pregnant woman may suffer from the same neurological diseases as her non pregnant sister. Thus when asked to assess a woman postpartum who has a neurological problem all these causes must be kept in mind. Not infrequently, other specialists not normally involved with pregnant or labouring women are unaware of obstetric neurological damage and blame RA for neurological problems after delivery – even when RA has not been used! [personal observation, Holdcroft].

The causes of neurological problems after delivery can conveniently be categorised as due to the patient, nursing procedures, surgical procedures or instruments, obstetric procedures or instruments, and finally anaesthetic causes – RA or GA.

Neurological damage due to obstetrics may include damage to any of the following: anterior spinal artery syndrome, lumbar plexus, femoral nerve, obturator nerve, peroneal nerve, lateral femoral cutaneous nerve.

From the anaesthetic point of view neurological damage may occur from difficulties at insertion of needles leading to trauma to nerves, or to toxic effects from a drug or contaminant, infection, or vascular problems (haematoma, anterior spinal artery syndrome).

The most important thing for anaesthetists to appreciate is the variability of the spinal cord anatomy and the unreliability of the bony markers used to identify intervertebral spaces (Norris MC). Thus we are often placing needles at interspaces higher than we think, thus exposing the spinal cord or the conus to direct needle trauma. In one study only 15 % of needles were inserted at the chosen interspace (L3/4). 50 % were one space higher, 33 % were two spaces higher and the remainder were three to four spaces higher [Broadbent et al]! Thus a gentle spinal technique must be used and a spinal needle should not be advanced any further than is necessary.

When one sees the close proximity of the pelvic nerves to the baby’s head one often wonders “why is there not more nerve damage?” A recent study indicates that the incidence of obstetric nerve damage may be much higher than we think – it is merely a question of looking for it. From 21 women who had a normal vaginal delivery without any obstetric or anaesthetic input 7 women were noted to have identifiable neurological deficits – only one of these complained of symptoms [Dar AQ et al]. The factors which seem to be associated with nerve injury include nulliparity, greater birth weight of the baby, longer times in second stage, longer times with thigh flexion >90° [Wong CA et al]. Regional analgesia, age, height, weight, pregnancy weight gain and fetal presentation were not associated with nerve injury [Wong CA et al].

When asked to see a woman post partum who complains of some neurological deficit then an assessment by an anaesthetist should be performed before asking neurologists or others to become involved. This initial assessment should

elicit the history and map the deficit (sensory and motor). When requesting an expert opinion from another specialist we should always draw to their attention the possibility of obstetric palsies and other non anaesthetic causes as it is all too easy for them to blame the most obvious cause – the RA. Neurophysiological studies are an important aspect of any investigations as these are often able to pinpoint the actual site of the lesion and exonerate the RA.

When a woman complains of a neurological deficit post delivery, the most likely cause is the baby! ☐

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