



RARE CASE OF NEUROPATHIC KNEE JOINT FOLLOWING SPINAL ANAESTHESIA

Orthopaedics

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ABSTRACT

Neuropathic arthropathy develops in weight bearing joints especially in ankle and foot and the most common cause in upper limbs is syringomyelia. Other causes include leprosy, meningomyelocele, syringomyelia, tabes dorsalis, spinal cord injury and congenital insensitivity to pain. Painless abnormal mobility due to the destruction of afferent proprioceptive fibers, loss of sensation of joint occurs.

KEYWORDS

neuropathic joint, spinal anaesthesia

INTRODUCTION:

Most common anesthesia given in day to day practice is spinal due to its cost effectiveness, safety, and efficacy, which provides both motor and sensory block with a high success rate. Complications such as hypotension, headache, and urinary retention are relatively common^{1,2}. However, permanent neurological complications are very rare.

Neurological complications due to spinal anesthesia are burning sensation over buttocks, dysesthesia, paresthesia, transverse myelitis, anterior spinal artery syndrome, and cauda equina syndrome^{1,3}.

We report a case of the neuropathic left knee joint which developed because of formation of a syrinx following inadvertent dural penetration during spinal anesthesia^{2,3}.

CASE REPORT:

A 47-year-old woman came with complaints of pain and swelling of right knee & fever since two days. Pain was insidious in onset, continuous, non-radiating and no specific aggravating and relieving factors. No history of trauma. H/o of decreased sensations in right lower limb since 6 yrs. Patient underwent hysterectomy 6 yrs ago under spinal anaesthesia elsewhere; immediately after spinal injection she developed pain, paraesthesias in right lower limb. She is taking supportive treatment from neurologist since then. Her sensory and motor function improved gradually with patient able to walk independently. On examination: swelling over the right knee, mild local raise of temperature, tenderness over the swelling and joint margins. Patellar tap and synovial thickening present. Mild crepitus present. ROM: 0 – 100°, relatively painless, Varus laxity present. Anterior drawer test +ve, Posterior drawer test –ve, Lachman test +ve, Mc Murray test –ve, No peripheral nerve thickening. No distal neurovascular deficit. Based on clinical findings a provisional diagnosis of Synovitis of right knee? OA with synovitis? Non specific? TB synovitis was made and she was started on antibiotics empirically, antipyretics and analgesics and traction applied to right lower limb. Right knee joint is aspirated under aseptic conditions, approx 30 ml of haemorrhagic aspirate obtained and sample sent for culture and sensitivity and for CB NAAT. But all the investigations came negative. Then we verified old MRI report which was done 6 years back and found severe focal changes in the right side of the spinal cord involving lower dorso lumbar cord and conus medullaris with mild diffuse changes noted in the same region. Possibilities include 1) post-traumatic cord changes myelitis and Neurological examination of right lower limb was done bilaterally comparable bulk of the muscles, Tone – within normal limits, Hip flexion, extension, abductors & adductors 4/5, Knee extension 3/5, flexors 4/5, Ankle dorsiflexion 4/5, Plantar flexion 4/5, EHL 1/5, Knee and ankle reflexes – absent. No Plantar response. Pain, touch and temperature sensations were decreased in L3, L4, L5, and S1 dermatomes. Vibration and joint position sensations were normal. No trophic changes noted in the right lower limb (nail changes, ulcer & loss of hair) based on these findings diagnosis of neuropathic knee joint following spinal anaesthesia was

made which is very rare only few cases reported so far

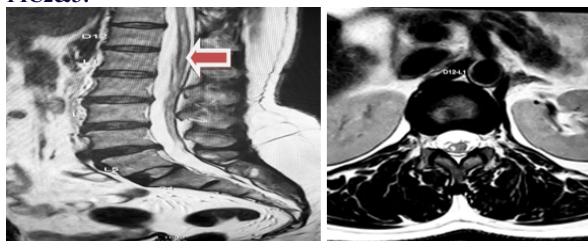
X-RAY RIGHT KNEE AP/LATERAL: destructive changes, sclerosis, and medial tibial plateau fracture of right knee joint.

PIC-1



Mri Of Lumbar Spine With Whole Spine Screening: Magnetic resonance imaging of the whole spine was done which shows syrinx at D12 and L1 level.

PIC2&3:



RESULTS:

The patient was counseled regarding the possible options of treatment. Arthrodesis could be attempted but with high failure rates and loss of available knee movements. Knee replacement with constrained/hinged custom mega prosthesis (in view of gross instability) could be done with high rates of early loosening and infection. The patient was not willing for any surgical procedure, and hence, she was advised and fitted with orthosis.

DISCUSSION:

The incidence of permanent neurological injury following spinal anesthesia varies between 0 and 4.2/10000 patients. Preexisting spinal pathology or disease increases the incidence of post-operative neurological complication following neuraxial blockade. Reynolds reported a series of cases of conus medullaris injury post-spinal anesthesia. The possible reason for this was indicated as misplacement of needle at the lower end of the spinal cord. Degenerative changes, osteophyte formation, and subchondral fractures suggest neuropathic joint.

CONCLUSION:

Syrinx can occur as a complication of spinal anesthesia. Neurological deficit as a complication of syrinx can be disabling and can lead to the neuropathic joints even in larger joints as illustrated in this case report which is very rare only few case are reported so far.

REFERENCES:

1. Apan A, Apan OH. Topics in spinal anaesthesia. Whizar Lugo, V., editor. Complications in Spinal Anaesthesia. InTech; 2014, in spinal anaesthesia/ complications in spinal anaesthesia.
2. Doherty MJ, Millner PA, Latham M, Dickson RA, Elliott MW. Non invasive ventilation in the treatment of ventilator failure following corrective spinal surgery. *Anaesthesia* 2001;56:235-247.
3. Kumar N, Patidar SP, Joshi D, Kumar N. Focal myelomalacia and syrinx formation after spinal anaesthesia. *J Assoc Physicians India* 2010;58:450-451.