

**BACLOFEN PUMP FOR INTERATHECAL BACLOFEN THERAPY: OMAN  
EXPERIENCE**

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**ABSTRACT**

Intrathecal baclofen (ITB) therapy is known to directly control spasticity in the spinal cord with fewer systemic adverse effects in a variety of neurological diseases including spinal cord injury, cerebral palsy (CP), stroke, traumatic brain injury, and hypoxic brain injury. ITB therapy can effectively reduce severe spasticity that does not respond to oral medications or botulinum toxin treatment. In addition, ITB therapy is reversible and continuously controls spasticity, whereas orthopedic musculoskeletal surgery and selective posterior rhizotomy are irreversible.

**INTRODUCTION**

Most patients with spasticity, rigidity, and other symptoms of the upper motor neuron syndrome respond effectively to surgical treatment with an intrathecal baclofen pump when their symptoms become intractable to nonsurgical measures. Baclofen administered into the lumbar subarachnoid space produces a locally high concentration at the spinal level and a low concentration supraspinally, avoiding most of the central side effects associated with a high oral dose, such as drowsiness and confusion.

The aim of surgical treatment is to provide the appropriate volume and concentration of the drug in the subarachnoid space, avoiding the main surgical complications, that is, infections, skin erosion, and catheter displacement.

**MATERIALS AND METHODS**

In our institute we received patients of severe spasticity after head and spinal injuries, cerebral palsy patients with severe spasticity, multiple sclerosis patients with spasticity and intramedullary spinal tumours operated patients with spasticity. All these patients were counselled for the procedure which will help them have control of spasticity more effectively with 100 times lower dose than oral baclofen. All risks of infection, bleeding and hardware problems were explained. Once they agreed trial dose of intrathecal baclofen was given via lumbar drain and effect noticed. To start 50 microgram was given if no effect 75 micrograms next day if still no effect 100 micrograms were given third day. If still no effect in terms of decrease in spasticity as assessed by physiotherapist, patient was labelled not a

candidate. If passes under GA in lateral position pump was put in a subcutaneous pouch in hypochondric region and intrathecal catheter in spinal column connecting them subcutaneously. Every 6 months refilling of the pump was done.

**RESULTS**

A total number of 31 baclofen pumps were put in last 7 yrs in our institution.

**Sex Distribution**

Males 23

Females 8.

**Age distribution**

5 yrs to 68 yrs.

**Pathologies Spasticity due to**

Cerebral palsy 10

Post traumatic head and spinal injuries. 15

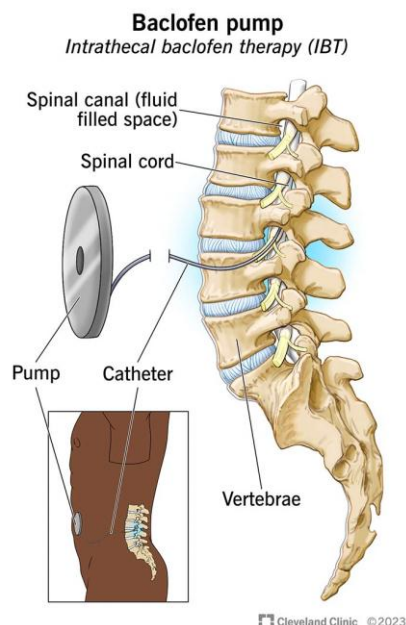
Multiple sclerosis 3

Spinal tumours and AVM 3.

**Complications (Needing pump removal)**

Infection 4

Family refused to continue with intrathecal therapy 2.



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## DISCUSSION

Penn RD in 1984 elaborated his experience of intrathecal baclofen relieving spinal spasticity.<sup>[1]</sup> Penn RD further shared their experience of continuous intrathecal baclofen therapy in 1985.<sup>[2]</sup> Ethane K shared their experiences of intrathecal baclofen therapy elaborating indications, surgical techniques, pharmacology and efficacy in 2007.<sup>[3]</sup> Brennan PM in 2008 shared his experience of baclofen pump installation and discussed broad knowledge base and challenges remaining.<sup>[4]</sup> In 2000 Van Sachaebroak discussed intrathecal baclofen for intractable cerebral spasticity: a prospective placebo-controlled, double-blind study.<sup>[5]</sup>

## CONCLUSION

Recent studies have suggested that early exposure to ITB therapy is appropriate to prevent musculoskeletal deformities and contracture and participate in active rehabilitation programs in contrast to the conventional concept that ITB pump implantation should be delayed for over 1 year post-onset. Patients with severe spasticity should consider early application of ITB therapy to decrease caregiver burden, prevent complications, and eventually improve function.

## REFERENCES

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