Intrathecal baclofen pump infections in a pediatric neurology practice from 1998-2014

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Background
Pediatric intrathecal baclofen (ITB) pump infection rates of 4% to 21% have been reported in the literature. Complications and infection related to surgical implant are also well documented. Pumps require refills on a scheduled basis and periodic replacements, all of which provide risk of infection.

Methods
A retrospective chart review of all patients undergoing placement of ITB pump. The study period spans from program inception through December 2014. Patients with pump infections were identified and sorted with regard to:

- When infection identified
- Patient’s age at infection
- Etiology of infection
- Diagnosis

Infections were classified as early (<60 days) or late. Our institutional practice is to train and keep a dedicated number of personnel prepared to refill ITB pumps including:

- Neurologists specializing in movement disorders
- Clinical Nurse Specialist
- Nurse practitioners

Refill training is provided by a single individual with ongoing monitoring of trainees performing refills for several months. Two people are present for refills.

Results
Occurrence = 13 incidents (4.7% infection rate)
- 12% (6-10 years) vs 2% (rest of group)
Etiology = Cellulitis (3), CSF Leak (3), Pump pocket (7)
Late infections = 2 (0.07%)
- 122 days (pump erosion)
- 964 days (elbow cellulitis that became systemic)

Conclusions & Discussion
Our overall infection rate is 4.7% and compares favorably to other studies. Most (85%) of infections occur within 60 days of implant and could be attributed to surgical infections. Late infections (n=2) occurred in < 1% of patients and were related to external factors. No infections could be related to a refill procedure. ITB pump management done by a dedicated group under controlled circumstances can be done safely in the pediatric population with minimal risk of infection. Infection risk is highest in very young patients. Review of peri-operative care for this group may be warranted.

References