Postpartum Epidural Abscess Due to Group B Streptococcus

Postpartum epidural abscess due to group B *Streptococcus* is an apparently rare complication of pregnancy and may lead to serious morbidity if diagnosis is delayed. We describe two patients with postpartum epidural abscess due to group B *Streptococcus* (GBS); one case occurred in association with an epidural catheter.

A 30-year-old previously healthy woman with a known allergy to penicillin had a normal vaginal delivery with episiotomy at term. The only analgesic given was im pethidine. Culture of skin swab specimens taken from the neonate 2 days postpartum yielded GBS. One day postpartum the mother reported interscapular back pain. On the sixth day postpartum, fever and rapidly progressive leg weakness developed. An MRI scan demonstrated a mass in the epidural space, deforming the spinal cord, with no associated osteomyelitis. An epidural abscess extending from the third to sixth thoracic vertebra was surgically drained, and GBS was cultured from the operative specimen. The results of blood cultures were negative. The patient received 4 weeks of therapy with iv cefotaxime and made a full recovery. The epidural GBS isolate was identified as serotype Ib, and the type-specific antibody level obtained 8 days postpartum was 6.9 µg/mL.

A 40-year-old woman with gestational diabetes underwent a cesarean delivery at term because of obstructed labor. An epidural catheter was inserted between the second and third lumbar vertebrae, and intraoperative prophylaxis with iv cefotetan was given. The catheter did not appear infected at removal, and the tip was not sent for culture.

Six days postpartum the patient developed fever as well as bowel and bladder dysfunction and had difficulty walking. A myelogram revealed a complete block between the eighth and tenth thoracic vertebrae, with no osteomyelitis. At operation, indurated epidural tissue was excised, and GBS was cultured from this material and from a vaginal swab. She received 4 weeks of therapy, with iv penicillin (plus 1 week of therapy with iv gentamicin), followed by 4 weeks of oral penicillin therapy, and she recovered with minimal residual leg weakness. The epidural GBS isolate recovered was serotype Ia, and the type-specific antibody level obtained 31 days postpartum was 126.1 µg/mL.

We postulate that, in both cases, mucosal trauma in the setting of GBS vaginal colonization led to GBS bacteremia at delivery, with seeding to the epidural space. Postpartum epidural abscesses caused by *Staphylococcus aureus* have been described [1], as has GBS epidural abscess in nonparturient patients [2], but we could not find any other reports of puerperal GBS epidural abscess. Previously reported catheter-related epidural abscesses have been caused by *S. aureus, Staphylococcus epidermidis* [3], and, in a single case, by *Pseudomonas aeruginosa* [4]. All cases were believed to represent direct infection from the catheter, but bacteremic spread seems more likely in our case.

Postpartum GBS endocarditis and meningitis are uncommon [5, 6] and probably also result from intrapartum GBS bacteremia. The onset of postpartum GBS infections, including meningitis, typically occurs within 2 days of delivery. The facts that our first patient had interscapular back pain 24 hours after delivery and that both patients had paraparesis on the sixth postpartum day are consistent with an acute hematogenous epidural abscess from bacteremia at delivery. Minor back trauma often precedes epidural abscesses, perhaps because a small hematoma acts as a nidus for bacterial seeding, and could be caused by an epidural catheter or, as in our first case, by labor itself.

The occurrence of these two infections almost simultaneously, although at separate hospitals, raised the question of whether a particular serotype of GBS or a type-specific maternal immune defect might be implicated. The two isolates were of different serotypes, however, and both patients appeared to have an adequate antibody response to infection. We cannot determine whether protective antibody levels (believed to be greater than ~1 µg/mL) were present at the time of suspected bacteremia. The development of an epidural abscess when no epidural catheter was used (in the first case) indicates that no causal relationship to the catheter can be drawn in the second case.

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References