Group B Streptococcal Meningitis and Endopthalmitis

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A 45-year-old man who presented with acute purulent meningitis and anterior uveitis of the right eye was reported. The results of hemoculture, CSF culture, and vitreal fluid grew group B beta-hemolytic Streptococci. Meningitis improved after treatment, but the eye was finally eviscerated.

Keywords : *Purulent Meningitis, Anterior Uveitis, Group B Beta-hemolytic Streptococci*

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The association of bacterial meningitis and endophthalmitis in adults is a very rare condition[1]. Group B streptococcus (GBS) is a major cause of meningitis and septicemia in neonates, but meningitis caused by this organism rarely occurs in adults. To the authors' knowledge, there are few reports of GBS endophthalmitis associated meningitis[2-4].

Case report

A 45-year-old, healthy man was admitted to Srinagarind Hospital in September 2002 with the chief complaint of painful and decreased vision of the right eye, associated with fever and right-sided headache for 2 days. There was no history of recent common cold, sinus, ear, or genitourinary infection. Physical examination showed an alert man with body temperature of 40.0°C. He had stiffness of the neck. Visual acuity at presentation was hand motion of the right eye and 6/36-1 of the left eye. Of the right eye, there was intraocular pressure of 50 mmHg, mild lid swelling, mild chemosis, marked ciliary injection with mucopurulent discharge, mild generalized edematous cornea, a heavy cellular reaction in anterior chamber, mild dilated and fixed pupil, and obscured lens. The left eye and other findings were unremarkable.

The peripheral white blood cell (WBC) count was 31,000 cells/mm^3 with 96% neutrophils. Urinary analysis and chest X-ray were within normal limits. Anti-HIV antibody was non-reactive. Lumbar puncture revealed a cloudy cerebrospinal fluid (CSF) with an opening pressure of 280 mmH_2O. The WBC count was 1,280 cells/mm^3 with 80% neutrophils. A protein level was 237 mg/dL and a glucose level was 64 mg/dL (simultaneous serum glucose level of 139 mg/dL). No bacteria were seen with Gram's stain. A diagnosis of anterior uveitis with secondary glaucoma and bacterial meningitis was made. The patient was treated with anti-glaucomatous agents, topical steroid, and intravenous ceftriaxone 4 g/day.

The next day, the ultrasonographic scan showed haziness of vitreous with increased chorioscleral thickening. Topical steroid was stopped and topical cefazolin (50 mg/mL), fortified topical gentamicin (14 mg/mL), and 1% atropine eyedrop were given. On the third hospital day, the patient still had fever. Vitreal tapping showed a yellowish fluid and Gram's stain showed moderate Gram-positive cocci. He was treated with an intravitreal and subconjunctival injection of vancomycin and ceftazidime. Two days later, the results of hemoculture, CSF culture, and vitreal fluid grew group B beta-hemolytic Streptococci, which was sensitive to penicillin, ampicillin, cephalothin and chloramphenicol. The antibiotic was switched to intravenous penicillin G 24 million units/day. His meningitis resolved but the right eye did not improve and finally evisceration was performed.

Discussion

The most common source of GBS is probably the vagina [5], which accounts for the mechanism of neonatal sepsis and meningitis and a portion of the

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disease in adults. Also, this organism can be found in the rectum and the throat [5]. In adults, clinical manifestations caused by this pathogen include skin, soft-tissue, or bone infection; bacteremia; urosepsis; pneumonia; peritonitis; pharyngitis; endometritis; endocarditis; arthritis; and meningitis. Endophthalmitis is a devastating ophthalmic disease. The development of endophthalmitis may be exogenous (including post-surgical and post-traumatic infections) or it may be of endogenous spreading from other infections such as meningitis, abdominal infection, endocarditis, cellulitis, and urinary tract infection. The clinical course is highly variable, depending on the virulence of the organism, early diagnosis and treatment, and the underlying disease of the patient.

In the presented case, the authors suspected that he initially had bacteremia and then seeded both the eye and the meninges. Although a high dose of intravenous, topical and intraorbital antibiotics were administered, endophthalmitis was not improved due to the severity of the infection.

References

1. Pfister HW, Feiden W, Einhaupl KM. Spectrum of complications during bacterial meningitis in adults. Results of a prospective clinical study. Arch Neurol 1993; 50: 575-81.
2. Buglass TD, Romanchuk KG. Fatal case of group B streptococcal endogenous endophthalmitis. Can J Ophthalmol 1995; 30: 149-50.
3. Nagelberg HP, Petashnick DE, To KW, Woodcome HA Jr. Group B streptococcal metastatic endophthalmitis. Am J Ophthalmol 1994; 117: 498-500.
4. MacConnell TJ, Ferro A. A sore eye and meningitis. Lancet 1995; 346: 1269.
5. Edwards MS, Baker CJ. Streptococcus agalactiae (Group B Streptococcus). In: Mandell GL, eds. Principles and practice of infectious diseases. 5th ed. Philadelphia: Churchill Livingstone, 2000: 2156-67.

เยื่อหุ้มสมองอักเสบ และตาอักเสบจากเชื้อสเตร็พโตคอคคัส กรุ๊ป บี

วีรจิตต์ โชติมงคล, วสันต์ ซุนเฟื่อง, สุนันท์ ชัยทวังกูล

รายงานผู้ป่วยชายไทย อายุ 45 ปี มีอาการของเยื่อหุ้มสมองอักเสบเฉียบพลันชนิดเป็นหนอง ร่วมกับตาขวาอักเสบ ผลการเพาะเชื้อในเลือด น้ำไขสันหลัง และน้ำในลูกตา ขึ้นเชื้อ สเตร็พโตคอคคัส กรุ๊ป บี หลังการรักษา อาการของเยื่อหุ้มสมองอักเสบดีขึ้น แต่อาการทางตาไม่ดีขึ้น และในที่สุดต้องควักตาออก