Original Research Paper

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Internal Medicine

BURKHOLDERIA PSEUDOMALLEI URINARY TRACT INFECTION WITH PRE SEPTAL CELLULITIS

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ABSTRACT A 45-year-old diabetic patient presented with right eye swelling in the background of fever and lower urinary tract symptoms. Examination showed swelling in the right eye with ptosis. CT showed right sided pre septal cellulitis. Urine culture was positive for Burkholderia pseudomallei. He was treated with IV ceftazidime and Sulfamethoxazole and trimethoprim.

KEYWORDS : Urinary tract infection, Pre-septal cellulitis, burkholderia pseudomallei, ptosis.

INTRODUCTIONS:

Burkholderia pseudomallei is a gram negative, non-sporing bacteria which causes multiple abscesses and pneumonia with bacteremia especially in patients with comorbidities like Diabetes mellitus, alcoholism and glucocorticoid use(1). It is endemic in certain regions of India, like West Bengal and Tamil Nadu(2). The mean incubation period is 9 days(3). Genito-urinary infection is common with burkholderia pseuodomallei. Pre-septal cellulitis is a rare ocular manifestation of Burkholderia pseudomallei infection compared to orbital cellulitis and endophthalmitis which are more common(4). Treatment consists of intensive phase and eradication phase as per the Darwin melioidosis guideline which can extent up to 8 weeks for the former and 6 months for the latter(5).

CASE REPORT:

A 45-year-old armed forces personnel presented with a 2-month history of fever with chills, lower urinary tract symptoms, headache and cough with expectoration. He had been initially admitted in his home town and treated for pneumonia with cefoperazone and sulbactam. He had no improvement in fever and he developed dysuria with restricted urine flow. He also developed swelling around the right eye with pain and mild ptosis. He had a past history of type 2 Diabetes mellitus and dyslipidemia.

On evaluation, he was found to have right-sided peri-orbital swelling and mild ptosis, however his vision and extra ocular movements were normal. There were no features of inflammation in the anterior chamber of the eye. Pupils were reactive to light. No generalized lymphadenopathy was found. Ronchi was heard over the right axillary region and left middle zone. He also had left loin tenderness. Initial laboratory tests showed anemia (11.2 gm/dl) and elevated ESR (98 mm/hr). He had poorly controlled diabetes with HbA1C of 10.1%. The PSA was 4.24 ng/ml and urine was turbid and showed plenty of pus cells. Urine culture grew Burkholderia pseudo mallei.

CT of the orbit showed pre-septal cellulitis involving the right orbit with mild bulky lacrimal gland on the right and sparing of theextraocular muscles. Ultrasound of the abdomen showed prostatomegaly. He was started on IV Ceftazidime and trimethoprim and sulfamethoxazole. His symptoms improved with the IV antibiotics and the periorbital swelling reduced. He was discharged from the hospital with advice to continue IV ceftazidime for 3 more weeks and oral Sulfamethoxazole and trimethoprim for 5 months.

Figure 1 Right preseptal cellulitis

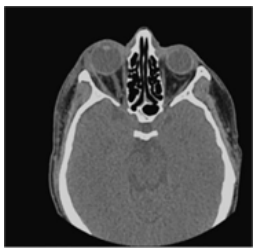

Figure 2 CT PNS showing right preseptal cellulitis

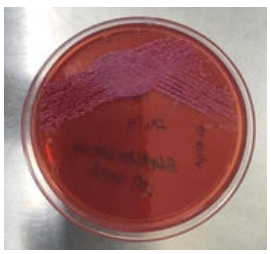

Figure 3 Culture showing Burkholderia

Discussion:

Melioidosis is caused by Burkholderia pseudomallei, a gram-negative motile, non-sporing bacteria which commonly causes multiple abscesses and pneumonia. It can be considered an opportunistic infection with an increased risk of infection and fatal outcomes in patients with diabetes, heavy alcohol use, chronic pulmonary disease, chronic renal disease, glucocorticoid use and cancer (1).The incubation period ranges from 1-21 (mean 9) days (3). In India, Melioidosis is more common in West Bengal, Jharkhand and Tamil Nadu, along with Andhra Pradesh, Assam and other states (2). In a review of melioidosis cases from India, respiratory involvement and bacteremia were the most common manifestations of acute melioidosis. Skin, genitourinary, central nervous system infections and septic arthritis are also commonly seen (1,2).

Yaisawang et al conducted a review of melioidosis cases with ocular involvement in Thailand and found that ocular involvement in Melioidosis is rare and commonly presents as orbital cellulitis or endophthalmitis. Panophthalmitis, pan-uveitis, preseptal cellulitis and corneal ulcers are rarer ocular manifestations (4). 2 cases of preseptal cellulitis were noted in this review and one of them underwent incision and drainage of the abscess and one was managed conservatively with IV Ceftazidime. Both these patients had improvement in their vision as compared to many of the patients with other ocular manifestations who underwent surgical procedures and had poor visual prognoses (4).

Treatment of melioidosis is based on the Darwin melioidosis guideline (5). As per the Darwin melioidosis guidelines, treatment is divided into an intensive phase and an eradication phase with duration of each

phase being dependent on the site and severity of the infection. Skin abscesses, unilateral unilobular pneumonias without lymphadenopathy or ICU admission and bacteremia without a focus of infection can be treated with 2 weeks intensive IV therapy and 3 months oral eradication therapy. Central nervous system and arterial infections may require up to 8 weeks of intensive and 6 months of eradication therapy (5).

Our patient was started on treatment with Ceftazidime IV for 3 weeks followed by Trimethoprim-Sulfamethoxazole oral for 5 months. There was some improvement in his ocular symptoms by 7 days of treatment. Further response to treatment has to be reviewed during future follow up.

DECLARATIONS:

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