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Paper Poster Session I

Severe sepsis, bloodstream infection and catheter-related bacteraemia

HIV-associated community-acquired bacteraemia at a tertiary-care hospital in Thailand

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Introductions Community acquired bacteremia (CAB) was common among HIV-infected individuals. The causative organisms have been highly variable among different populations. Gram positive pathogens such as *S.aureus* and *S.pneumoniae* are prominent in western countries. However, there have been few studies conducted on the epidemiology among developing countries. The objective of the study was to determine the microbiology and predictors of dead among HIV-infected patients presented with CAB.

Methods Retrospective study was conducted at Nakhonpathom hospital, a 500-bed tertiary care hospital in Thailand during October 1, 2010 and September 30, 2013. CAB was defined if patients had pathogenic organisms isolated from blood taken within the first 2 days of admission.

Results There were 64 patients. Mean age was 39.8 ± 10.2 years and 42 (65.6%) were male. Most patients had no apparent source of infection (45 patients, 70.3%), followed by diarrhea (14.1%), urinary tract infection and pneumonia (3.1%, each). Twenty-six (40.6%) had concurrent active opportunistic infection during CAB presentation including PCP (13 patients, 50.0%), tuberculosis (10, 38.5%) and cryptococcal meningitis (3, 11.5%). CD_4 counts of 35 patients were determined and median level was 37 (range 9-501) cells/mm^3. The majority of CAB was caused by gram negative bacteria (53 patients, 82.8%) and the most common organisms were *Salmonella* spp. (51.6%) and *E.coli* (23.4%). Only 4 isolates (6.3%) of *S.pneumoniae* and 1 (1.6%) of *S.aureus* were identified. Of *Salmonella* spp., 57.6%, 33.3% and 9.1% were serogroup c, d and b, respectively. The antimicrobial susceptibility testing was performed. Seventeen isolates of *Salmonell*a spp. (51.5%) were resistant to ceftriaxone, 10 (30.3%) to trimethoprim-sulfamethoxazole (TMP-SMX), 9 (27.3%) to ciprofloxacin and 9 (27.3%) to co-amoxiclav. One-third of *E.coli* was ESBL producers. The in-hospital mortality was 35.5%. The predictors associated with dead were higher bilirubin (1.0 vs 0.4 mg/dl, p 0.01), lower albumin (2.1 vs 2.9 g/dl, $p < 0.001$) and lower platelet count (116 vs 179 cells x $10^3/mm^3$, p 0.02).

Conclusions *Salmonella* spp. and *E.coli* were the prominent etiology of HIV-associated CAB in our setting. The result of the study demonstrated high rate of antimicrobial resistance of causative pathogens to commonly used antibiotics. Serum bilirubin, albumin and platelet count were associated with outcome.

Variables	Survivors (n =42)	Dead (n=22)	*p*-value
Mean age, years (SD)	40.5 (9.7)	38.6 (11.4)	0.48
Median CD_4 count, cells/mm^3 (range)	33 (9-501)	68 (15-346)	0.35
Gram negative bacteria	35 (83.3)	18 (81.8)	1.0
Had concurrent opportunistic infection	16 (40.0)	10 (45.5)	0.68
Median leucocytes, cells x $10^3/mm^3$ (range)	8.2 (0.7-23.2)	10.6 (0.2-28.2)	0.84
Median platelets, cells x $10^3/mm^3$ (range)	179 (27-502)	116 (8-340)	0.02
Median bilirubin, mg/dl (range)	0.4 (0.2-5.8)	1.0 (0.2-27.0)	0.01
Mean albumin, g/dl (SD)	2.9 (0.7)	2.1 (0.7)	< 0.001