

Session: P089 HIV medicine

**Category: 1a. HIV/AIDS (incl anti-retroviral drugs, treatment & susceptibility/resistance, diagnostics & epidemiology)**

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**Community-acquired bacteraemia in HIV patients at a tertiary-care hospital in Thailand: epidemiology and predictors of mortality**

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**Background:** Community acquired bacteremia (CAB) recognized to be a major cause of morbidity and mortality among HIV patients. 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. 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 death among HIV patients presented with CAB.

**Material/methods:** Retrospective study was performed at Nakhonpathom hospital, a 670-bed tertiary care hospital in Thailand during July 1, 2010 and June 30, 2016. CAB was defined if patients had pathogenic organisms isolated from blood taken within the first 2 days of admission. Blood isolates of coagulase-negative staphylococci, *Corynebacterium* species, *Bacillus* species, *Propionibacterium* species, *Peptostreptococcus* species and *Clostridium* species were considered to be contaminated.

**Results:** During 6-year period, there were 83 patients. Mean age was  $39.9 \pm 10.1$  years and 49 (59.0%) were male. Most patients had no apparent source of infection (62 patients, 74.7%), followed by enteritis (9, 10.8%), urinary tract infection and pneumonia (3, 3.6% each). Twenty-nine (34.9%) had concurrent opportunistic infections (OIs) including PCP (16 patients, 19.3%), tuberculosis (10, 12.0%) and cryptococcal meningitis (3, 3.6%). Median CD<sub>4</sub> counts of 50 patients was 38 (range 8-1,680) cells/mm<sup>3</sup>. The majority were caused by gram negative bacteria (69 patients, 83.1%) and the most common were *Salmonella* spp. (45, 54.2%) and *E.coli* (19, 22.9%). Only 5 isolates (6.0%) of

*S.pneumoniae* and 2 (2.4%) of *S.aureus* were identified. Of *Salmonella*, 25, 15 and 5 were serogroup c, d and b, respectively. Twenty-four isolates of *Salmonella* (53.3%) were resistant to ceftriaxone, 18 (40.0%) to ciprofloxacin, 17 (37.8 %) to trimethoprim-sulfamethoxazole (TMP-SMX) and 11 (24.4%) to co-amoxiclav. Six of *E.coli* (31.6%) were ESBL producers. The in-hospital mortality was 27.7%. The predictors associated with dead were high bilirubin (1.1 vs 0.5 mg/dl,  $p$  0.01), low albumin (2.1 vs 2.9 g/dl,  $p$  < 0.001) and low platelet count (111 vs 189 x 10<sup>3</sup>/mm<sup>3</sup>,  $p$  0.01).

Variables	No. (%) of patients		p-value
	Survivors (n =60)	Dead (n=23)	
Mean age, years (SD)	40.6 (9.7)	38.2 (11.2)	0.33
Median CD <sub>4</sub> count, cells/mm <sup>3</sup> (range)	36 (8-1,680)	68 (15-346)	0.63
Gram negative bacteria	33 (55.0)	17 (73.9)	0.46
Had concurrent OIs	19 (31.7)	10 (43.5)	0.31
Median bilirubin, mg/dl (range)	0.5 (0.2-5.8)	1.1 (0.2-27.0)	0.01
Mean albumin, g/dl (SD)	2.9 (0.6)	2.1 (0.6)	< 0.001
Median leucocytes, cells x 10 <sup>3</sup> /mm <sup>3</sup> (range)	7.7 (0.7-23.2)	10.4 (0.2-28.2)	0.58
Median platelets, cells x 10 <sup>3</sup> /mm <sup>3</sup> (range)	189 (27-502)	111 (8-340)	0.01

**Conclusions:** *Salmonella* and *E.coli* were the prominent etiology of HIV-associated CAB and demonstrated a high rate of antibiotics resistance. Serum bilirubin, albumin and platelets were associated with outcome.