In our haemodialysis population, we identify the pathogens, sensitivity patterns, sources of infection and outcomes of Gram-negative bacteraemia" Murray et al (2015).

Reference:

Murray, E.C., Marek, A., Thomson, P.C. and Coia, J.E. (2015) Gram-negative bacteraemia in haemodialysis. Nephrology, Dialysis, Transplantation. May 9th. .

Review of gram-negative bacteraemia in haemodialysis patients http://ctt.ec/q15H6+ @ivteam #ivteam

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Abstract:

BACKGROUND: Patients on renal replacement therapy experience higher rates of morbidity and mortality, infection being the second commonest cause of death. In our haemodialysis population, we identify the pathogens, sensitivity patterns, sources of infection and outcomes of Gram-negative bacteraemia.

METHODS: Data from the NHS Greater Glasgow & Clyde and NHS Forth Valley haemodialysis population were collected July 2011 to April 2014 through an interrogation of the renal unit electronic patient record, and confirmed by an independent search of the Microbiology database.

RESULTS: Over 544 377 haemodialysis days, 84 patients experienced 95 Gram-negative bacteraemia events, a rate of 0.175 events per 1000 haemodialysis days, which varied with dialysis modality: non-tunnelled central venous catheters 4.77, arteriovenous grafts 0.24, tunnelled central venous catheters 0.21, and arteriovenous fistulae 0.11 per 1000 haemodialysis days. The commonest sources of bacteraemia were central venous catheters (CVCs) (16.8%, n = 16), infected ulcers (14.7%, n = 14), urinary (10.5%, n = 10), biliary (9.5%, n = 9) and intra-abdominal (9.5%, n = 9). The principal organisms were Escherichia coli (49.5%, n = 47), Enterobacter spp. (13.1%, n = 13), Klebsiella spp. (11.1%, n = 11), Proteus mirabilis (6.1%, n = 6) and Pseudomonas aeruginosa (5.1%, n = 5). Of the Enterobacteriaceae (n = 84), 88% were sensitive to gentamicin, 81% to ciprofloxacin, 91% to piperacillin-tazobactam and 100% were sensitive to meropenem. Three-month case mortality was 25.3% (n = 24). Ten patients (11.9%) had more than one Gram-negative bacteraemia; of these, nine patients (90.0%) were the same causative organism, predominantly E. coli.

CONCLUSIONS: CVCs and diabetic foot ulcers remain significant risk factors for Gram-negative bacteraemia, highlighting the importance of vascular access planning. Despite good levels of antibiotic sensitivity, the early mortality following Gram-negative bacteraemia remains high, supporting aggressive treatment of such pathogens.

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