400

# Outcomes of a Pneumocystis jirovecii pneumonia outbreak in a renal transplant population of 420 prevalent patients

Dr Daniela Farrugia[1], Sister Caroline Clark[1], SN Emily Bard[1], Dr Kerry Tomlinson[1]
[1]*University Hospitals Of North Midlands Nhs Trust, Stoke-on-Trent, United Kingdom*

Introduction
Pneumocystis jirovecii pneumonia (PCP/PJP) remains a substantial cause of morbidity and mortality in immunocompromised patients. Description of an outbreak of PCP/PJP outbreak in a transplant population attending the same renal clinic showed possibility of inter-human transmission on multiple occasions. In this presentation we describe our response to this outbreak and the outcomes of the patients affected.
Methods
From mid-November 2018 to early February 2019 we had 6 suspected patients with PCP/PJP- 4 confirmed cases, 1 case not confirmed with BAL, 1 case in which diagnosis was established post-mortem. The attendance to the transplant clinic of patients with suspected PCP/PJP was mapped from 3 to 4 months prior to the diagnosis of the index case and it confirmed that the affected patients had simultaneously attended the transplant clinic with the index case or another infected patient.
Results
By the end of the outbreak there were 12 confirmed cases of PCP/PJP (1 at postmortem). 11 cases were renal transplant patients, with 1 patient being on immunosuppression for treatment of SLE and lived in the same household as 1 of the confirmed PCP/PJP cases. The mortality in our cluster was 17% or 2 out of our 12 patients. The standard treatment used has high dose intravenous or oral co-trimoxazole plus high dose steroids depending on the severity of the illness.5 out of the 12 patients diagnosed with PCP/PJP required renal replacement therapy – 1 patient had advanced CKD Category 5 at time of diagnosis; 2 patients required renal replacement therapy because of hyperkalaemia and 2 patients had multi-organ failure on critical care. 33% of patients (4/12) had their treatment changed to primaquine/clindamycin or another agent in view of AKI. 2 patients were treated with only a prophylactic dose because it was felt they were only colonized not actively infected. Among the patients with suspected PCP/PJP (23 patients), 1 patient developed methaemoglobinaemia secondary to primaquine, 1 patient was found to have a pulmonary embolus showing the importance of keeping an open mind to other diagnoses in an outbreak. When high dose co-trimoxazole was used pending the confirmation of PCP/PJP a high rate of acute kidney injury was noted. The last positive case identified 25th March 2019; as the incubation period of PCP /PJP is 3 months the outbreak was declared close in late June 2019.
Conclusion
Pnuemocystits jirovecii pneumonia and its treatment carries a risk of mortality and high morbidity in renal transplant patients. Vigilance is important to recognise an above average rate of infection in the renal transplant population. In our outbreak the index case was initially missed as the patient passed away on critical care and the renal transplant team was unaware of this diagnosis. This highlights the importance of close liaison between the microbiology team and the renal transplant team to identify such clusters as early as possible.