despite the use of high-dose ceftriaxone. Reproducible results with further insight into the mechanism of ceftriaxone synergy against E. faecalis, along with better characterization of the dose–effect relationship, would be helpful. In the meantime, agents that have been shown to be clinically effective, along with higher doses of cephalosporins, may be preferred for synergistic therapy with daptomycin until more data become available.

Considering the scarcity of effective therapy against enterococci and the need to preserve the utility of new agents, the findings of Snyder et al.1 offer a promising potential therapy for enterococcal IE. However, until more positive clinical evidence is available, the combination of daptomycin and ceftriaxone remains hypothesis-generating, and many unanswered questions regarding daptomycin-based therapies for this infection remain.

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References

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Successful use of ceftaroline for the treatment of MRSA meningitis secondary to an infectious complication of lumbar spine surgery

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Sir,

MRSA meningitis is uncommon; however, it has a relatively high mortality rate. Treating MRSA meningitis is challenging because of limited available antimicrobial agents. We present a case of MRSA meningitis successfully treated with ceftaroline, a newer cephalosporin that has activity against MRSA.

A middle-aged woman was admitted with confusion for several days and a seizure episode. Her medical history included migraine headache, depression and chronic back pain. Three months prior to her presentation she underwent lumbar spine surgery, which was complicated with MRSA post-operative wound infection and treated with 2 weeks of oral antibiotics (trimethoprim/sulfamethoxazole). She was transferred to our neurosurgical ICU as a CT image of her head showed a small intracranial haemorrhage. On arrival she was incoherent, unable to provide a history and complaining of frontal headache and left ankle pain. She was febrile and had tachycardia with left ankle swelling and redness. Laboratory work revealed a white blood cell count of 20×109/L with a significantly elevated sedimentation rate and C-reactive protein. She was started on intravenous vancomycin and clindamycin for left ankle cellulitis. Admission blood cultures showed MRSA in all bottles. It was susceptible to vancomycin with an MIC of 1 mg/L. Her mental status deteriorated with increased lethargy requiring intubation for respiratory support. The patient continued to be febrile despite reduction of her white blood cell count to normal. MRI of the left ankle was negative for osteomyelitis while MRI of the lumbar spine showed epidural fluid collection at L3 with no evidence of bone involvement. A CT-guided fluid aspirate from the L3 site grew MRSA with a vancomycin MIC of 2 mg/L. Repeat blood cultures remained negative, but the patient continued to have fever and persistent confusion. CSF analysis

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was suggestive of bacterial meningitis with a nucleated cell count of 3240/μL, a red blood cell count of 360/μL, a glucose concentration of 4 mg/dL and a protein concentration of 500 mg/dL. CSF culture was positive for MRSA with a vancomycin MIC of 2 mg/L and a daptomycin MIC of 1 mg/L. In view of higher MICs of vancomycin and daptomycin, the fact that the patient had been on a selective serotonin reuptake inhibitor (SSRI) and after confirming MRSA susceptibility to ceftaroline by Etest (with an MIC of 0.25 mg/L in CSF and blood culture), she was switched to 600 mg of ceftaroline every 8 h and 300 mg of rifampicin twice daily. Her confusion resolved slowly and she was successfully weaned from respiratory support. All repeat blood cultures remained negative. She continued to make progress and was successfully discharged to inpatient rehabilitation on day 27 of her admission on intravenous ceftaroline, which is a newer cephalosporin approved for acute bacterial skin and skin structure infections and community-acquired pneumonia. Ceftriaxone is not recommended for MRSA meningitis with daptomycin, which has a poor CSF penetration, and daptomycin, which has a penetration of 2% with non-inflamed and ~5% with inflamed meninges.

The recommended dosage of ceftaroline is 600 mg intravenously every 12 h for patients >18 years old with adjustment required for renal insufficiency. It is well tolerated with most frequent (>3%) side effects being nausea, diarrhoea, headaches, rash and insomnia, which are mild and self-limiting.

We did not obtain additional CSF analysis for confirmation of sterility as our patient showed significant clinical improvement. In addition, rifampicin was used for the initial 2 weeks of therapy with ceftaroline; further studies are needed to assess the synergistic effect and therapeutic benefits of this combination. Ceftaroline was chosen in favour of other antimicrobials in view of higher MICs of vancomycin and daptomycin, SSRI interaction with linezolid and clindamycin resistance. We believe this is the first case reporting the successful use of ceftaroline for the treatment of MRSA meningitis, supporting its use as a possible alternative. Further investigation, however, is needed to evaluate its penetration and efficacy in treating MRSA-related CNS infections.

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