

BRINGING CLINICIANS TOGETHER TO DISCUSS CURRENT DRUG THERAPY

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INFECTIOUS DISEASES

You'll see a continued shift toward ORAL antibiotics for bone and joint infections in adults.

These patients with osteomyelitis are usually treated with IV antibiotics...often for 6 weeks or longer.

Now more evidence suggests that switching to oral antibiotics after about 1 week seems to work as well as continuing IV meds.

This is in patients with or without a prosthetic joint...often in combo with surgery to remove dead tissue or infected devices.

But there's still not much evidence about which PO regimen is best...or whether PO meds are effective if patients don't undergo surgery.

For now, expect oral antibiotics to be saved when frequent IV doses at home aren't practical...and the patient will likely be adherent.

If osteomyelitis patients switch to oral therapy, anticipate PO meds to complete a total of 6 weeks of antibiotics...up to 3 or 6 months for a prosthetic hip or knee.

But be aware, some patients may need to continue oral antibiotics chronically...such as those who can't have infected hardware removed.

Expect susceptibility and side effects to guide antibiotic choice.

You may see cephalexin or dicloxacillin for methicillin-sensitive staph...or TMP/SMX or linezolid for MRSA. Don't be surprised if rifampin is added...especially for patients with prosthetic joints.

On the other hand, ciprofloxacin or levofloxacin will likely be saved for gram-negative bugs, due to a growing list of quinolone concerns.

Emphasize adherence...and consider alerting the prescriber if the patient doesn't pick up these long courses of antibiotics. Streamline prior auths for linezolid if needed...it costs over \$15/day.

Watch for interactions. For example, TMP/SMX plus other potassium-raising meds can lead to hyperkalemia...linezolid plus other serotonergic meds (SSRIs, etc) can increase risk of serotonin syndrome...and rifampin can reduce levels of warfarin, HIV meds, oral contraceptives, etc.

Go to our chart, *Oral Antibiotics for Acute Osteomyelitis in Adults*, for more on dosing, monitoring, and interactions.

(For more on this topic, see Clinical Resource #350509 at PharmacistsLetter.com.)

Primary Reference – Li HK, Rombach I, Zambellas R, et al. Oral versus intravenous antibiotics for bone and joint infection. *N Engl J Med* 2019;380:425-36.

See LEADER NOTES for answers to discussion questions.

DISCUSSION QUESTIONS

OVERVIEW OF CURRENT THERAPY

1. What is known about treating osteomyelitis?

ANALYSIS OF NEW STUDY

2. What type of study was this? How were the patients selected for inclusion?

3. How were the trial groups defined?

4. How were the outcomes evaluated?

See LEADER NOTES for answers to discussion questions.

5. What were the outcomes of this trial?

6. What were the strengths and weaknesses of this trial?

7. Were the results expressed in terms we care about and can use?

HOW SHOULD THE NEW FINDINGS CHANGE CURRENT THERAPY?

8. Do the results change your practice? How?

APPLY THE NEW FINDINGS TO THE FOLLOWING CASE

ML is a 72-year-old male with a past medical history of type 2 diabetes and COPD. He is admitted from the emergency room to your family medicine inpatient service for a knee infection due to a dog bite. Upon talking with ML, you discover that he tried to break up a fight between his own four dogs a couple of months ago and received a bite on his right knee. He initially saw his primary care physician and received a prescription for amoxicillin/clavulanate. However, he only took it for two days because the medication

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caused diarrhea. Four days ago he noticed his right knee looked red and felt a little warm. He's also had growing pain in the right knee when he walks and now has a limp. He denies any known fevers or other systemic symptoms.

9. What is the treatment for animal bites from a dog or cat?

An x-ray was performed in the emergency room which revealed no foreign bodies or fractures, but showed some possible bone destruction. Pertinent labs revealed an elevated erythrocyte sedimentation rate (ESR) and leukocytosis. Based on his clinical picture, cellulitis, septic joint, or osteomyelitis of the knee are suspected. Blood cultures are drawn and then ML is started on vancomycin.

On hospital day 4, ML's MRI returns with findings of acute osteomyelitis in the right knee. Blood cultures return positive for MRSA. Upon discussion of treatment options, ML is adamant he wants to return home and doesn't like the idea of giving himself IV antibiotics. He is not open to anyone coming to his house because of his dogs. He wants to know why he can't just take pills like he usually does when he gets sick.

10. How should you manage ML? Are oral antibiotics an option?

After collaboration with the infectious disease service, the plan is to complete seven days of vancomycin and discharge ML with another five weeks of oral TMP/SMX two double-strength tabs twice daily.

11. What might you suggest ML's PCP do for follow-up?

See [LEADER NOTES](#) for answers to discussion questions.

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Additional Pharmacist's Letter Resources available at PharmacistsLetter.com

Chart, Oral Antibiotics for Acute Osteomyelitis in Adults. *Pharmacist's Letter/Prescriber's Letter*. April 2019.

Chart, Adverse Reactions With Systemic Quinolones. *Pharmacist's Letter/Prescriber's Letter*. February 2019.

Chart, MRSA: Prevention and Decolonization. *Pharmacist's Letter/Prescriber's Letter*. January 2019.

Chart, Oral Antibiotics for Endocarditis: Is It an Option? *Pharmacist's Letter/Prescriber's Letter*. November 2018.

Toolbox, Antimicrobial Stewardship. *Pharmacist's Letter/Prescriber's Letter*. July 2018.

Chart, Antibiotic Therapy: When Are Shorter Courses Better? *Pharmacist's Letter/Prescriber's Letter*. March 2018.

Chart, Drug Treatments for Skin and Soft Tissue Infections. *Pharmacist's Letter/Prescriber's Letter*. January 2018.

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