The first RCT was a noninferiority study comparing antimicrobial treatment with placebo in 161 afebrile, otherwise healthy pediatric patients with abscesses, 80% of which were attributed to MRSA. After I&D, patients received either trimethoprim-sulfamethoxazole (TMP-SMX; 10–12 mg/kg per day TMP) or placebo for 10 days. Compliance rates were low in both arms (46% TMP-SMX and 55% placebo). Failure rates were 5.3% (4/76) in the placebo group and 4.1% (3/73) in the antibiotic group (difference not significant).2

Another RCT assigned 212 afebrile, healthy adults with abscesses to either 7 days of TMP-SMX 160 mg/800 mg twice a day or placebo after I&D. There was no significant difference between the groups in failure rates after 7 days (26% in placebo group vs 17% in the antibiotic group (absolute risk reduction [ARR] 9%; 95% CI, –2 to 21; P=.12). MRSA was identified in 53% of these abscesses.3

A third RCT studied 166 outpatient adults with abscesses, including those with comorbidities such as HIV infection, diabetes mellitus, and drug use.4 Patients were treated with I&D and cephalexin 500 mg 4 times a day or placebo for 7 days. Clinical cure rate was 90.5% (76/84) in the placebo group and 84.1% (69/82) in the cephalexin group (ARR 6.4%; 95% CI, –4.2 to 17). This study was limited by ineffective antibiotic selection for the treatment group, because about 60% of the abscesses were caused by MRSA, which is not susceptible to cephalexin. However, clinical cure rates were high in both groups.

Evidence-Based Answer

Alendronate and raloxifene both reduce vertebral fracture rates in postmenopausal women with osteopenia. Risedronate does not alter vertebral fracture rates but does reduce the overall fracture rate for these women. (SOR: C, derived from retrospective and subgroup analyses of cohort studies). Exercise appears to significantly increase bone mineral density (BMD) and T-scores in postmenopausal women. (SOR: C, based on a cohort study using disease-oriented outcomes.)

A retrospective analysis of the subset of osteopenic women (n=3,737; mean age, 68 years) in the Fracture Intervention Trial I and II showed that alendronate 5 mg/d for 2 years then 10 mg/d thereafter (n=1,858) compared with placebo (n=1,859) significantly reduced clinical vertebral fracture risk (risk ratio [RR]=0.40; 95% CI, 0.19–0.76; P=.005) and radiographic fracture (RR=0.57; 95% CI, 0.41–0.81; P=.002) after 4.5 years of follow-up.1

A retrospective analysis of 620 postmenopausal women with osteopenia (mean age, 64 years) receiving risedronate 5 mg/d (n=311) or placebo (n=309) showed that after 3 years risedronate reduced risk of combined vertebral and nonvertebral fracture by 73% (HR 0.27; 95% CI, 0.09–0.83; P=.023). The cumulative nonvertebral fracture incidence was 5.4% and 0.4%, respectively, for placebo and risedronate (HR 0.09; 95% CI, 0.01–0.71; P=.022) and the cumulative vertebral fracture incidence was 4.2% and 1.8% (HR 0.44; 95% CI, 0.11–1.78; P=.25).2

Subgroup analysis of postmenopausal women with osteopenia (n=2,557, mean age, 65 years) in an RCT showed raloxifene 60 mg/d (n=1,287) compared with placebo (n=1,270) significantly reduced risk for new vertebral fracture (RR=0.53; 95% CI, 0.32–0.88) and for new clinical vertebral fracture (RR=0.25; 95% CI, 0.14–0.43). For raloxifene, the NNT to prevent 1 new vertebral fracture was 59 and to prevent 1 new clinical vertebral fracture was 100.3

A prospective cohort study compared the effect of a group exercise regimen of 1-hour duration 3 times weekly for 21 weeks that comprised warm-up, stretching, strengthening, balance, stabilization, and cool-down exercises in 17 postmenopausal women.
with osteopenia (mean age, 55 years) and 16 women osteoporosis (mean age, 55 years). In women with osteopenia, the mean T-scores increased from −2.7 to −2.4 (P=.006) and the mean BMD increased from 0.67 to 0.72 g/cm² (P=.004). A similar effect was seen in women with osteoporosis.4

The National Osteoporosis Foundation (NOF) guidelines recommend initiating therapy in postmenopausal women and men ≥50 years age with osteopenia and a 10-year hip fracture probability ≥3% or a 10-year major osteoporosis-related fracture probability ≥20% based on the US-adapted World Health Organization absolute fracture risk model (FRAX™; available at www.NOF.org). The NOF recommends weight-bearing exercises, diet and lifestyle modification, and calcium supplementation as first-line interventions for patients with osteopenia.5

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What is the most effective treatment for restless legs syndrome (RLS)?

Evidence-Based Answer

Head-to-head RCTs for the 2 therapeutic agents approved by the US Food and Drug Administration (FDA) for RLS—ropinirole and pramipexole—are lacking. However, pramipexole appears to be more efficacious and may be better tolerated. (SOR: B, based on an “indirect” meta-analysis of placebo comparison trials.)

Dopamine agonists are recommended as first-line treatment. Ergot-derived dopaminergic agents have well-documented cardiac adverse effects and lead to an augmentation phenomenon (worsening of symptoms) in nearly three-quarters of RLS patients with prolonged use. Two nonergot-derived dopamine agonists (NEDAs), ropinirole and pramipexole, have a more favorable adverse-effect profile, and are FDA approved for this indication.1

Treatment studies for RLS often use 1 or more of the following outcome measures. The Clinical Global Impression-Improvement scale (CGI-I) requires the clinician to assess how much the patient’s illness has improved or worsened relative to a baseline state (1=much improved; 7=much worsened). The International RLS Study Group Rating Scale (IRLS) is based on a 10-question self-administered patient survey with total scores ranging from 0 to 40; higher scores represent more severe and frequent symptomatology. The 100-point Medical Outcomes Study (MOS) sleep scale reflects both the quantity and quality of sleep from the patient’s perspective.2

A meta-analysis of 14 placebo-controlled RCTs (n=3,197) of NEDAs was performed. NEDA use resulted in greater likelihood of symptomatic improvement (RR 1.4; 95% CI, 1.2–1.5; P<.001) and greater reductions in IRLS scores (weighted mean difference [WMD] −4.9 points; 95% CI, −6.4 to −3.4; P<.001) from baseline versus placebo. Meta-regression analysis showed a significant inverse relationship between study duration and reduction in IRLS score from baseline.2

A 2009 meta-analysis pooled data from 6 RCTs to evaluate the efficacy of ropinirole. In these similarly designed studies, 1,679 patients were randomized for at least 12 weeks of treatment. At the end of 12 weeks, ropinirole-treated patients slept an average of 2.5 h/wk more, or roughly a 2-fold greater improvement in the nightly quantity of sleep, compared with patients receiving placebo (P<.001).3

A 2008 meta-analysis evaluated the efficacy and tolerability of pramipexole versus ropinirole. The direct meta-analysis confirmed superior efficacy for both treatments versus placebo based on change in IRLS score (pramipexole: −5.5 points; 95% CI, −7.7 to −3.2; ropinirole: −3.2 points; 95% CI, −4.3 to −2.1) and CGI-I scores from baseline (pramipexole: OR 3.0; 95% CI, 2.1–4.3; ropinirole: OR 2.0; 95% CI, 1.5–2.6). An indirect medication comparison (using a probability of ≥95%) found a superior reduction in the mean IRLS score (−2.3 points; 95% credibility interval, −4.2 to −0.41) with pramipexole and significantly lower incidence of nausea, vomiting, and dizziness compared with ropinirole.4

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