What is the prognosis for acute low back pain?

EVIDENCE-BASED ANSWER The proportion of patients who are pain free or completely recovered after an acute episode of low back pain within 2 weeks to 6 months ranges from 21% to 90%, depending on the population studied and the method of measuring outcomes. The reported recurrence rates are also variable, from a low of 35% to a high of 75%, again depending on the length of follow-up and the study design. Grade of recommendation: C (on the basis of case-series, poor quality cohort studies, and case-control studies).

EVIDENCE SUMMARY It has been widely stated that 80% to 90% of attacks of acute low back pain resolve within approximately 6 weeks, though there is little evidence to support this claim. Although there are many studies and guidelines regarding treatment methods for low back pain, few studies evaluate the natural history of low back pain. One prospective series in a primary care setting found that 90% of patients were without pain 2 weeks after initial evaluation by their physician. This study had a 3-month follow-up period for 103 patients presenting with pain of less than 72 hours' duration.

Another prospective study found that 94% of patients evaluated for a new episode of low back pain were no longer visiting their physician for treatment after 3 months. However, this was not an adequate measure of resolution of pain. Only 21% (39/188) were pain free at 3 months and only 25% (42/170) were pain free at 12 months. A larger study involved 1555 patients during a 6-month follow-up after an episode of acute low back pain. The article reports a mean of 16 days to functional recovery, although only 69% of the patients considered themselves “completely recovered” at 6 months.

Recurrences of low back pain are common. In one prospective cohort study of 443 patients with low back pain, 75% had a recurrence with a mean of 2 relapses in 1 year of follow-up, but only 228 patients completed the study. Another prospective study of 208 patients found that 35% to 44% of patients had recurrence of pain within 6 months of their first episode, and 50% to 59% had a recurrence in 22 months of follow-up. No studies identified findings or risk factors associated with higher recurrence rates.

RECOMMENDATIONS FROM OTHERS The Agency for Healthcare Research and Quality (www.ahcpr.gov) section on health outcomes (see http://www.ahcpr.gov/research/jan99/ra6.htm) states, “recent studies suggest that once experienced, low back pain becomes a part of life for almost half of those affected, and for many, it is intermittently disabling. Repeated visits and procedures do not appear to improve patients’ long-term well-being, but they clearly account for substantial health care costs. Finally, back pain prognosis does not differ based on the type of provider initially seen or the level of practitioner confidence.” This site offers several nice summaries of studies on low back pain.

Thomas E. Bielanski, MD
West Suburban Hospital Family Practice Residency
River Forest, Illinois

Joan Nashelsky, MLS
W.A. Foote Hospital
Jackson, Michigan

Read the clinical commentary by Anne Fitzsimmons, MD, at www.fpin.org.

REFERENCES
What levels of cholesterol should be treated for primary prevention?

EVIDENCE-BASED ANSWER  The levels of cholesterol that should be treated for primary prevention are based on low-density lipoprotein cholesterol (LDL-C) levels of > 100 mg/dL to > 190 mg/dL and vary according to whether the patient’s risk is high, moderate, or low. See the table to estimate risk. Grade of recommendation for medication indications: A (on the basis of high-quality randomized controlled trials). Grade of recommendation for lifestyle indications: B (on the basis of extrapolations from randomized controlled trials).

EVIDENCE SUMMARY  Statins are the most effective at reducing LDL-C and the associated cardiovascular risk. The 5-year West of Scotland study (WOSCOPS) showed that a 26% reduction in LDL-C (from a mean of 192 to 142 mg/dL) using pravastatin 40 mg per day reduced the risk of either nonfatal myocardial infarction (MI) or coronary heart disease (CHD) death (number needed to treat [NNT] = 42; relative risk [RR] = 31; 95% confidence interval [CI], 17 - 43). This trial enrolled middle-aged men with an LDL-C level > 155 mg/dL without a history of prior MI, although subjects with stable angina (5% of the participants) were still eligible. Similar reductions were seen in cardiovascular death and in all-cause death (RR = 22; 95% CI = 0 - 40). Lovastatin reduced the risk of a first major acute coronary event (NNT = 24) in the 5-year AFCAPS/TexCAPS trial that enrolled 5608 men and 997 women with below-average high-density lipoprotein cholesterol (HDL-C) (men, 36 mg/dL; women, 40 mg/dL) without signs or symptoms of CHD. LDL-C was lowered 25% (from a mean of 156 to 115 mg/dL). Unpublished results suggest that simvastatin may have a similar effect. Primary prevention data are still lacking for atorvastatin and fluvastatin.

The 7-year Lipid Research Clinics Coronary Prevention Trial (LRC-CPTP) documented a reduction in CHD death and/or nonfatal MI (NNT = 59) with a 12.6% reduction in LDL-C with the use of cholestyramine, a bile acid resin, 24 g per day. Results of studies of the fibric acid derivatives are mixed. Subjects taking gemfibrozil 1200 mg per day in the 5-year Helsinki Heart Study had fewer coronary events compared with those taking a placebo (NNT = 71). Subsequent analysis suggests that patients with a high LDL-C/HDL-C ratio (> 5) plus hypertriglyceridemia (≥ 205 mg/dL) benefited the most. Clofibrate is no longer used because of an unexplained increase in deaths in the WHO Cooperative Trial. To date, outcomes in fenofibrate trials have only focused on surrogate markers and not long-term clinical outcomes.

RECOMMENDATIONS FROM OTHERS  The recommendations of the Third Report of the National Cholesterol Education Program (NCEP, Adult Treatment Panel III) are in the table. This report is an excellent source of additional information (http://www.nhlbi.nih.gov/guidelines/cholesterol/risk_tbl.htm).

Terry L. Seaton, PharmD
St. Louis College of Pharmacy and
Mercy Family Medicine

Susan Meadows, MLS
University of Missouri—Columbia

Read a clinical commentary by David Switzer, MD, at www.fpin.org.
How beneficial are thiazolidinediones for diabetes mellitus?

EVIDENCE-BASED ANSWER The thiazolidinediones pioglitazone (Actos) and rosiglitazone (Avandia) are effective at lowering fasting plasma glucose (FPG) and glycosylated hemoglobin (Hb A1c) in patients with type 2 diabetes when used either as monotherapy or in combination with sulfonylureas, metformin, or insulin. They are highly metabolized by the liver and should not be used in patients with liver enzymes greater than 2.5 times the upper limit of normal. Routine liver monitoring is recommended at baseline, every 2 months for the first year, and then periodically thereafter. Patients with New York Heart Association class III or IV heart failure should not use thiazolidinediones. In addition, thiazolidinediones cost considerably more than sulfonylureas and metformin. Therefore, thiazolidinediones are not generally considered for first-line therapy. These agents may be most beneficial in patients with insulin resistance and patients with renal dysfunction.

To date, there have been reports of pulmonary edema and hepatotoxicity associated with the use of rosiglitazone. In all cases, rosiglitazone was found to be a possible, not a definite, cause. To date, there have been reports of pulmonary edema and hepatotoxicity associated with the use of rosiglitazone. In all cases, rosiglitazone was found to be a possible, not a definite, cause.

RECOMMENDATIONS FROM OTHERS The American Diabetes Association and the American Association of Clinical Endocrinologists do not recommend one class of antidiabetic medication over another. Both of the thiazolidinediones are indicated for monotherapy and in combination clinical trials. Therefore, thiazolidinediones are not generally considered for first-line therapy. These agents may be most beneficial in patients with insulin resistance and patients with renal dysfunction.

Nicole S. Culhane, PharmD, BCPS
Wilkes University
Wilkes-Barre, Pennsylvania

Rebecca Graves, MLS
University of Missouri—Columbia

Read a clinical commentary by Steven Zweig, MD, at www.fpin.org

REFINEMENTS

TABLE

<table>
<thead>
<tr>
<th>Drug and dosage</th>
<th>Control</th>
<th>Adjunct medication</th>
<th>Change in Hb A1C vs comparison (%)</th>
<th>Change in FPG vs comparison (mg/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosiglitazone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 mg bid²</td>
<td>placebo</td>
<td>none</td>
<td>-1.5*</td>
<td>-73*</td>
</tr>
<tr>
<td>2 mg bid³</td>
<td>glyburide</td>
<td>none</td>
<td>+0.4</td>
<td>+5</td>
</tr>
<tr>
<td>4 mg bid³</td>
<td></td>
<td></td>
<td>+0.2†</td>
<td>-11</td>
</tr>
<tr>
<td>8 mg bid³</td>
<td>placebo</td>
<td>metformin</td>
<td>-1.3*</td>
<td>-54.3*</td>
</tr>
<tr>
<td>2 mg bid³</td>
<td>placebo</td>
<td>sulfonylurea</td>
<td>-1.1*</td>
<td>-43.6*</td>
</tr>
<tr>
<td>8 mg bid³</td>
<td>placebo</td>
<td>insulin</td>
<td>-1.3†</td>
<td>-55.8†</td>
</tr>
<tr>
<td>Pioglitazone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 mg qd⁴</td>
<td>placebo</td>
<td>none</td>
<td>-1.6*</td>
<td>-65.3*</td>
</tr>
<tr>
<td>30 mg qd⁴</td>
<td>placebo</td>
<td>sulfonylurea</td>
<td>-1.3*</td>
<td>-57.9*</td>
</tr>
<tr>
<td>30 mg qd⁴</td>
<td>placebo</td>
<td>metformin</td>
<td>-0.83*</td>
<td>-37.7*</td>
</tr>
</tbody>
</table>

Hb A1c denotes glycosylated hemoglobin; FPG, fasting plasma glucose; bid, twice a day; qd, every day.* P < .05 versus control. † P = not significant.‡ P < .006 versus placebo plus insulin.

Find further details online at www.fpin.org.