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News For The Diabetes Specialist

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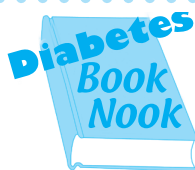


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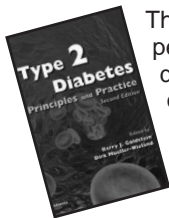
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Type 2 Diabetes: Principles & Practice

by: Barry J. Goldstein &
Dirk Mueller-Wieland



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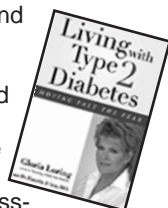
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Living with Type 2 Diabetes

by: Gloria Loring &
Dr. Timothy Gray

Up-to-date research and first-hand experiences create a book that is both easy to follow and empathetic towards those with the disease and their loved ones. Included are self-assessment tools, as well as step-by-step instructions on managing diabetes.

Available online at:
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Update on the Management of Type 2 Diabetes

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It is understood that type 2 diabetes is a complex disorder that should be managed on an individual basis. However, managing the disease individually does not prohibit the use of guidelines concerning "best practices" of care. A consensus statement on the management of hyperglycemia in type 2 diabetes was published by the American Diabetes Association in August 2006. This statement highlighted an algorithm for initiation and adjustment of therapy. The guidelines and algorithm were based on clinical trials and on the seven authors' clinical experience and judgment. Since the guidelines were published, new information regarding the safety of the thiazolidinediones (TZDs), specifically rosiglitazone, has surfaced. This article will review the consensus statement and provide information regarding recently reported potential adverse outcomes associated with rosiglitazone use.

Goals

Goals for the management of hyperglycemia in type 2 diabetes are based primarily on achieving an A1c level of less than 7% or, for the individual, as close to normal (< 6%) without significant hypoglycemia. There are several specific characteristics of medications used to treat hyperglycemia in type 2 diabetes and the guidelines are careful to review these factors. However, an important factor to consider when initiating or altering therapy is the patient's current level of glucose control. Therapeutic interventions, including lifestyle modification, generally cause a reduction in A1c between 0.5% and 2.5% when administered as monotherapy. In terms of overall effect on complications, there is no advantage of one therapeutic class of medication over another. However, early diagnosis and lower blood glucose levels at initiation of therapy are associated with decreased long-term complications.

Medications

There are several medication classes now available for use to treat type 2 diabetes in the United States: metformin (the only biguanide available in the United States), sulfonylureas, non-sulfonylurea insulin secretagogues (repaglinide and nateglinide), alpha-glucosidase inhibitors, TZDs, insulin (injectable and oral inhalation), incretin mimetics (exenatide), amylin analogs (pramlintide), and dipeptidyl peptidase-4 inhibitors (sitagliptin). These agents work both alone or in combination with others via different mechanisms of action. The selection of these agents is based on their ability to safely and effectively lower A1c levels to appropriate targets while reducing long-term complications, where capable, at a reasonable cost to the patient. Generally, when antidiabetes medications are administered in combination, those with different mechanisms of action provided the best synergy. Medication therapy should be given in concert with lifestyle modification.

Including lifestyle modifications in the management of type 2 diabetes has beneficial effects on hyperglycemia. However, most patients with type 2 diabetes will require medication therapy over time. Not all classes of agents were recommended in the consensus algorithm. Pramlintide, exenatide, alpha-glucosidase inhibitors, and non-sulfonylurea insulin secretagogues were not included. Dipeptidyl peptidase-4 inhibitor (sitagliptin) was not approved at the time of the consensus review.

Step 1: According to the consensus guidelines, it is recommended that lifestyle modification be initiated with metformin at diagnosis, and that it should be reinforced at every visit. It is recommended that patients without contraindications to metformin should be initiated on therapy because of its efficacy, ability to cause weight loss, absence of hypoglycemic side effect, good tolerability, and reasonable cost. A slow titration (over 1-2 months) is recommended.



Mark Your Calendar!

American Diabetes Association

55th Annual Advanced Postgraduate Course
◆ February 1-3, 2008
San Francisco, California
www.diabetes.org

American Association of Diabetes Educators

35th Annual AADE Meeting
◆ August 6-9, 2008
Washington, D.C.
www.diabeteseducator.org



Remember Flu Shots

Flu & Pneumonia Shots

It's flu season and people with diabetes are at a greater risk of flu and pneumonia.

- ◆ People with diabetes are 6 times more likely to be hospitalized with flu complications.
- ◆ During flu epidemics, deaths among people with diabetes increase 5-15%.
- ◆ Each year 10-30,000 deaths among people with diabetes are associated with influenza and pneumonia.

National Center of Disease Prevention & Health Control



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Step 2: An additional medication should be included in the regimen within 2-3 months if lifestyle modifications and the maximum tolerated dose of metformin fail to achieve or maintain glycemic goals. Insulin, a sulfonylurea, or a TZD is an appropriate addition after metformin. Patients with an A1c greater than 8.5% may benefit more from the addition of basal insulin.

Step 3: Initiation or intensification of insulin therapy should be the next step if goals have not been achieved after Step 2. Patients close to goal (< 8.0%) may benefit from the addition of a third agent; however, this intervention is costly and may not be as effective as adding or intensifying insulin. As short- or rapid-acting insulins are administered pre-prandially during insulin intensification, insulin secretagogues (sulfonylureas & non-sulfonylurea insulin secretagogues) should be discontinued or tapered and then discontinued since they lack synergism with insulin. Insulin plus metformin or insulin plus a TZD provide a synergistic combination. However, watch for increased fluid retention with insulin and a TZD.

Severely uncontrolled diabetes with catabolism must include insulin therapy in combination with lifestyle modification. Patients who meet this definition present with the following:

- Fasting plasma glucose levels >250 mg/dl,
- Random glucose levels consistently > 300 mg/dl,
- A1c > 10%, or
- Presence of ketonuria, or
- Symptomatic diabetes (polyuria, polydipsia, and weight loss)

Rapid titration of insulin is necessary to achieve target levels. Patients may be placed on oral agents upon resolution of symptoms and a return of glucose levels to normal.

Summary of the ADA Consensus Statement:

Health care providers and diabetes educators should focus on the following when managing hyperglycemia in type 2 diabetes patients:

- Achieve and maintain normal glycemic goals
- Initiate therapy with lifestyle intervention and metformin
- Add additional medications rapidly and transition to new regimens when target glycemic goals are not met or maintained
- Add insulin therapy early in patients not meeting target glycemic goals

New Information on the Safety of Rosiglitazone

Recently, rosiglitazone was evaluated for its risk for causing myocardia infarction (MI) and other heart-related adverse events compared to other antidiabetes medications. Using meta-analyses, 42 clinical trials were examined that found a significant increase in the risk of MI associated with rosiglitazone treatment. The authors conceded to several weaknesses in design and conduct of the study.

These results prompted an unscheduled interim analysis from the RECORD trial (Rosiglitazone Evaluated for Cardiac Outcomes and Regulation of glycemia in Diabetes), currently in progress, to determine if the results were valid. However, the results observed, after only 3.75 years of the 6-year study, failed to provide clear evidence to the contrary and were deemed inconclusive. Nevertheless, these results have raised concerns about the safety of rosiglitazone in type 2 diabetes patients since their risk of heart disease is already increased. The Food and Drug Administration held an Advisory Committee Meeting on July 30, 2007, and concluded that recent data regarding the use of rosiglitazone in type 2 diabetes suggested there was a greater risk of myocardial ischemic events than with other available therapies. The Advisory Committee also recommended label changes (potentially black box warnings) for use in patients with heart failure, concomitant use of insulin, or nitrate use. For more information about this meeting, visit www.fda.gov.

Patients currently on rosiglitazone, along with their physician or health care provider, need to weigh the benefits and risks of therapy. Until additional guidance is provided by the FDA, educators should inform their patients not to stop treatment on their own, but to work with their physician or health care provider to determine if therapy should be suspended.

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