

curacy and precision of this glucose meter has been accepted for publication (4).

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References

1. Ng RH, Martin L, Halpin M, Bernstein R, Fischer J, Taylor E, Schroder S: Clinical performance of a new test strip with the MediSense blood glucose sensor. *Clin Chem* 41:S181, 1995
2. FDA Administrative Guidance Document: Review criteria for assessment of self-monitoring blood glucose in vitro diagnostic devices using glucose oxidase methodology. 1 January 1992
3. Melnik J, Potter JL: Variance in capillary and venous glucose levels during a glucose tolerance test. *Am J Med Tech* 48:543-545, 1982
4. Zarnoth DM, McNeil LD, Voss EM, Johnson ML, Cembrowski GS: Determining acceptability of blood glucose monitoring devices. Part III. Evaluating performance of the MediSense Precision QID blood glucose testing system. *Lab Med*. In press

Ileus: A Rare Side Effect of Acarbose

Indications of acarbose, an α -glucosidase inhibitor, in patients with diabetes have been negatively (1) or positively (2) discussed in the recent issues of the journal. We report here an ileus as a side effect of acarbose and an alarm for its use in patients with high risk for developing such an event.

A 39-year-old woman was admitted due to severe abdominal colic, vomiting, and excessive abdominal distention on 9 January 1996. She was diagnosed with NIDDM in 1993 and started 150 mg acarbose t.i.d. before each meal on 22 January 1995; the dose was increased to 300 mg a day on 13 December 1995. Past and family histories were not contributory. On admission, she was 95.5 kg in weight and 1.59 m in height. Her abdomen was diffusely tender, distended with mechanical bowel sounds. There was no clinical evidence of diabetic neuropathy. Abnormal accumulation of gas in the intestines

was evident with niveau on the X ray. Leukocyte count was 8,300/mm³ with granulocytosis, and C-reactive protein was 1.42 mg/100 ml. Random sample plasma glucose was 10.7 mmol/l, and urinary ketone bodies were negative. The laboratory data were otherwise unremarkable. Fluid was given, and oral intake and acarbose were withheld. After 2 days, ileus spontaneously resolved. Ileus did not recur and she has been free from any gastrointestinal symptoms since then.

Acarbose, an α -glucosidase inhibitor, interferes with the degradation of starches, dextrans, maltose, and sucrose into monosaccharides, and its hypoglycemic effect in patients with NIDDM is well established (3-5). The drug's side effects, which include increased flatulence, soft stool, and abdominal discomfort, are caused by the fermentation of unabsorbed carbohydrates by intestinal bacteria. In Japan, acarbose is prescribed for ~100,000 patients/month, and 6 patients with ileus were reported with regular doses (150 to 300 mg a day), three were operated on, and one died (6). Another case with ileus was reported in a patient taking voglibose, another α -glucosidase inhibitor (6). All previous patients with ileus were over 60 years of age and/or with history of abdominal surgery (6). In contrast, ileus has not been documented (1-5) as a side effect of α -glucosidase inhibitors in whites as far as we are aware. This difference may be due at least in part to the abundance of carbohydrates and fiber in the Japanese diet compared with a Western diet. At any rate, we suggest that ileus be listed as a rare side effect of the drug and that the drug should be used with great caution in those with predisposing factors for ileus, such as previous abdominal surgery.

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References

1. Lerman I, Perez FJG, Aguilar-Salinas CA, Rorigo JAR: Acarbose: in search of its real indications in current medical practice. *Diabetes Care* 19:94-95, 1996
2. Bayractor M, Van Thiel DH, Adalar N: A comparison of acarbose versus metformin as an adjuvant therapy in sulfonylurea-treated NIDDM patients. *Diabetes Care* 19:252-254, 1996
3. Joubert PH, Venter HL, Foukaridis GN: The effect of miglitol and acarbose after an oral glucose load: a novel hypoglycaemic mechanism? *Br J Clin Pharmacol* 30:391-396, 1990
4. Chiasson JL, Josse RG, Hunt JA, Palmason C, Rodger NW, Ross SA, Ryan EA, Tan MH, Wolever TMS: The efficacy of acarbose in the treatment of patients with non-insulin dependent diabetes mellitus: a multicenter controlled clinical trial. *Ann Intern Med* 121:928-935, 1994
5. Coniff RF, Shapiro JA, Seaton TB, Bray GA: Multicenter, placebo-controlled trial comparing acarbose (Bay g 5421) with placebo, tolbutamide, and tolbutamide-plus-acarbose in non-insulin-dependent diabetes mellitus. *Am J Med* 98:443-451, 1995
6. Ohno T: Gastrointestinal side effects of α -glucosidase inhibitors with special reference to ileus. *Shinyaku to Rinsho* 44:144-146, 1995

Measurement of Central Adiposity

A bet each way?

The role of central adiposity in the insulin-resistance syndrome and as a major risk factor in atherosclerosis (1) is increasingly recognized and was highlighted in a recent issue of *Diabetes Care* (2). However, as discussed in the same issue of *Diabetes Care*, there is debate as to the detrimental component(s) of central adiposity: subcutaneous, intraperitoneal, and/or retroperitoneal fat (3). It seems attractive that portally drained omental fat should have the greatest impact in causing insulin resistance. Its measurement requires anatomical definition, involving expensive and/or high-radiation procedures such as computed tomography (CT) scanning or magnetic resonance imaging (MRI). However, it is important to understand that the increased mobilization and lipolytic activity of abdominal fat are present in the nonportally draining