

Colorectal Ca Rising in Those Younger Than 50

BY KERRI WACHTER

FROM THE ANNUAL MEETING OF THE AMERICAN SOCIETY OF COLON AND RECTAL SURGEONS

MINNEAPOLIS — An increase in the national incidence of colorectal cancer among individuals who are younger than age 50 years has prompted some experts to call for lowering the screening age to at least 40 years.

Although the colorectal cancer (CRC) incidence across all age groups has decreased 18%—from 55 per 100,000 in 1987 to 45 per 100,000 in 2006—the incidence among those aged 40-44 years

VITALS Major Finding: The incidence of colorectal cancer among those aged 40-44 years increased 50% between 1987 and 2006 (from 12 per 100,000 to 18 per 100,000).

Data Source: An analysis of data from the National Cancer Institute's Surveillance Epidemiology and End Results (SEER) database.

Disclosures: Dr. Davis reported that he had no relevant financial relationships; senior author Dr. Jorge Marcet reported that he has significant financial relationships with GlaxoSmithKline and two surgical device manufacturers.

increased 50% during that same period, from 12 per 100,000 to 18 per 100,000.

The findings are based on an analysis of data from the National Cancer Institute's SEER (Surveillance, Epidemiology, and End Results) database, which includes information on the incidence, prevalence, and survival from specific geographic areas representing 26% of the U.S. population.

"This has led us to the conclusion that the screening age for colorectal cancer for average-risk persons should be reduced to at least 40 years," Dr. Donald Davis said at the meeting.

Currently, it is recommended that CRC screening begin at age 50 years for those with average risk.

The researchers looked at yearly data from 1987 to 2006 for five age groups, ranging from 0-4 years to older than 85 years.

They then examined data from 2002 to 2006 to determine the location of colorectal cancers and the incidence by age for CRC, colon cancer, and rectal cancer.

Overall, colon cancer dropped 17% and rectal cancer decreased 18%. People older than 50 years had a lower incidence of CRC in 2006 than in 1987.

However, those aged between 20 and 50 years had higher incidence in 2006 than in 1987.

Colon cancer increased 40% and rectal cancer increased 63% among those aged 40-44 years during this period.

Regarding the location of tumors, the highest percentage (approximately 30%) was in the rectum. More than half were located in the in the rectum or sigmoid.

For comparison, the researchers also looked at the change in cervical cancer incidence.

"We used cervical cancer because it is considered a successfully screened cancer," said Dr. Donald Davis, a surgical resident at the University of South Florida in Tampa.

In the 1970s, the incidence of cervical cancer was approximately 15 per 100,000; today, it is about 8 per 100,000.

Current recommendations are to begin screening women for cervical cancer by age 21.

The incidence of cervical cancer peaks among women aged 40-44 years (15 per 100,000), according to recent data. The incidence of CRC is equal to that of cervical cancer in this age group, Dr. Davis noted.

"However, after this age group, colorectal cancer exponentially increases

while cervical cancer continues to decline," he said.

The researchers were prompted to look for a national trend based on the results of an institutional review. They found that 100 patients younger than 50 years had been diagnosed with CRC in the past 7 years. "The results were not evenly distributed. There was an exponential increase among those aged 35-40 years," said Dr. Davis. ■

If you think all basal insulins are the same, think again

The topic of insulin and cancer has garnered increased attention with the publication of 4 retrospective studies in *Diabetologia* that investigate the potential role of a specific basal insulin analog in cancer risk.¹⁻⁴

For decades, researchers have investigated the relationship between insulin and IGF-1 receptor activation and the development of certain cancers.⁵ To date, the clinical significance of the in vitro activity of IGF-1R has not been established.

The Novo Nordisk philosophy of engineering insulin and IGF-1R affinity

Novo Nordisk has been working on refining the attributes of insulin for more than 85 years, redesigning the insulin molecule with a focus on efficacy and safety.

We have developed insulin analogs that work like normal human insulin but which have a more consistent and predictable absorption profile associated with a low risk of hypoglycemia, the most common adverse event with insulin use.⁶⁻⁸

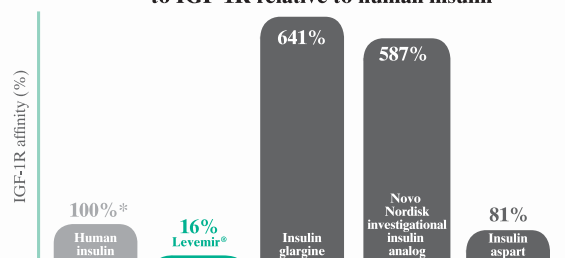
In 1992, Novo Nordisk stopped development of a rapid-acting investigational insulin analog when laboratory testing revealed it had undesirable mitogenic side-effects.⁹ A toxic-pharmacological evaluation indicated the compound's affinity to IGF-1R was high, one possible cause of the tumor growth.⁹

With work on this investigational compound discontinued, Novo Nordisk adopted a philosophy that all future insulins cannot have a greater binding affinity to IGF-1R and the insulin receptor (IR) than human insulin, the relevant comparator against which binding affinity is measured.⁹

Levemir® was designed with a low affinity to IGF-1R

Levemir® was designed with the lessons of the earlier investigational insulin analog in mind, with a specific fatty acid side chain to LysB29 to prolong its absorption and provide steady plasma levels while also having a lower IGF-1R affinity than human insulin.¹⁰

Levemir® was shown to have a low affinity to IGF-1R relative to human insulin¹⁰



*Human insulin is the relevant comparator against which IGF-1R affinity was measured.

An in vitro study that compared the insulin- and IGF-1R-binding properties and the metabolic and mitogenic potencies of the rapid-acting and long-acting insulin analogs with human insulin. IGF-1R affinity was measured using purified human IGF-1R.¹⁰

In another study, conducted by Lilly Research Laboratories, insulin glargine had an affinity to IGF-1R of 551% compared with 100% for human insulin.¹¹

The clinical significance of the in vitro activity of IGF-1R has not been established.

IGF-1 receptor activity
Insulin (A) and IGF-1 (B) receptors are widely expressed on normal tissues.⁵

For more information, visit www.IGF1Raffinity.com

Levemir®
insulin detemir (rDNA origin) injection

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Indications and usage

Levemir® is indicated for once- or twice-daily subcutaneous administration for the treatment of adult and pediatric patients with type 1 diabetes mellitus or adult patients with type 2 diabetes mellitus who require basal (long-acting) insulin for the control of hyperglycemia.

Important safety information

Levemir® is contraindicated in patients hypersensitive to insulin detemir or one of its excipients.

Levemir® should not be diluted or mixed with any other insulin preparations.

Hypoglycemia is the most common adverse effect of all insulin therapies, including Levemir®. As with other insulins, the timing of hypoglycemic events may differ among various insulin preparations. Glucose monitoring is recommended for all patients with diabetes. Levemir® is not to be used in insulin infusion pumps. Any change of insulin dose should be made cautiously and only under medical supervision. Concomitant oral antidiabetes treatment may require adjustment.

Needles and Levemir® FlexPen® must not be shared.

Inadequate dosing or discontinuation of treatment may lead to hyperglycemia and, in patients with type 1 diabetes, diabetic ketoacidosis. Insulin may cause sodium retention and edema, particularly if previously poor metabolic control is improved by intensified insulin therapy. Dose and timing of administration may need to be adjusted to reduce the risk of hypoglycemia in patients being switched to Levemir® from other intermediate or long-acting insulin preparations. The dose of Levemir® may need to be adjusted in patients with renal or hepatic impairment.

Other adverse events commonly associated with insulin therapy may include injection site reactions (on average, 3% to 4% of patients in clinical trials) such as lipodystrophy, redness, pain, itching, hives, swelling, and inflammation. Less common but more serious are severe cases of generalized allergy, including anaphylactic reaction, which may be life threatening.

Please see brief summary of Prescribing Information on adjacent page.

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