Big Shift Seen in Prescribing Patterns for Type 2

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SAN DIEGO – Since the mid-2000s clinicians dramatically shifted away from prescribing rosiglitazone and pioglitazone in favor of other novel type 2 diabetes medications, results from a large, single-center study suggest.

At the meeting, Dr. Sanjeev N. Mehta presented findings from a study of electronic medical records at Joslin Diabetes Center, Boston, that evaluated 10-year prescribing patterns for rosiglitazone and pioglitazone, as well as uptake of novel drug classes (categorized as "other") approved between 2001 and 2010. The "other" group consisted of amylin analogs, GLP-1 analogues, DPP-IV inhibitors, and bile acid sequestrants. Insulin use was not studied, nor were medications introduced prior to 2001.

The analysis aimed to measure provider response to the 2007 FDA boxed warning for rosiglitazone, which was implemented due to the drug's association with adverse cardiovascular outcomes.

After 2007, new prescriptions for rosiglitazone and pioglitazone declined dramatically; by 2010, new prescriptions were at 7% and 47%, respectively, of peak levels.

"Given the availability of these new drugs, there's a need to better understand provider patterns reading the use of new and established medications, [including] responsiveness to FDA indications and safety warnings," said Dr. Mehta, a staff physician at Joslin Diabetes Center.

Electronic health records with integrated prescribing functionality "may best describe provider behaviors, as their content is not limited to patient claims," he added. "Further, the detailed clinical information may provide the information necessary to validate both patient conditions and health outcomes."

Eligible patients had a diagnosis of type 2 diabetes based on an algorithm that used ICD-9 codes and a field that specified diabetes type. If a medication was used and later resumed, he and his associates used the earliest start date. For validation they conducted a manual review of 60 random electronic medical records.

Over the 10-year study period, 7,846 patients with type 2 diabetes had 9,178 new prescriptions for rosiglitazone, pioglitazone, and other agents. After 2007, the number of new prescriptions for rosiglitazone and pioglitazone declined dramatically.

By 2010, new prescriptions for rosiglitazone and pioglitazone were at 7% and 47%, respectively, of peak levels. The relative proportion of prescriptions for rosiglitazone, pioglitazone, and other medications was 44%, 50%, and 6% in 2005 and 2%, 18%, and 80% in 2010. "Prescribing patterns may be described using EHR-based clinical data," Dr. Mehta said.

"The data suggest provider responsiveness to an FDA warning for an established medication, as well as rapid adoption of new drugs and drug classes during this period. However, the explanation for provider behaviors cannot be fully determined in the present analysis, but merit further investigation." ■

To view an interview with Dr. Mehta, scan this QR code using your smartphone.

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Major Finding: The relative proportion of prescriptions for rosiglitazone, pioglitazone, and other medications was 44%, 50%, and 6% in 2005 and 2%, 18%, and 80% in 2010.

Data Source: A study of 7,846 patients with type 2 diabetes at the Joslin Diabetes Center, Boston, who had 9,178 new prescriptions for rosiglitazone, pioglitazone, and other agents from 2001 to 2010.

Disclosures: Dr. Mehta said that he had no relevant financial conflicts to disclose.