Delay in Diagnosis of Diabetes Is Not the Patient's Fault

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Previous reports have suggested that onset of diabetes occurs 4–7 years before clinical diagnosis (1). However, it is not known whether delay in diagnosis reflects patient factors, such as lack of medical visits or glucose measurements, or provider factors, such as clinical inertia (2).

We reviewed the charts of 50 patients selected for delayed diagnosis at the Atlanta Veterans Affairs (VA) Medical Center. Date of first diabetes range hyperglycemia (D1) was defined by outpatient fasting plasma glucose (0630–1000 h) ≥126 mg/dl, random glucose (1001–1800 h) ≥200 mg/dl, or 2-h post–oral glucose tolerance test (OGTT) glucose ≥200 mg/dl, or A1C ≥6.5%. Date of second diabetes range hyperglycemia (D2) was defined by having any two of these values or any value twice. The date of diagnosis was defined by initial use of ICD-9 code 250.xx at a primary care visit, of which 5% were to primary care. Patients were seen by a wide range of various practitioners, or provider factors, such as clinical inertia (2).

Our review reveals that delay in diagnosis of diabetes is not attributable to patient nonadherence as a result of missing appointments or blood tests. To the contrary, there were multiple opportunities when a diagnosis could have been made but was not made, suggesting provider factors (clinical inertia) as the cause of delay.

This review included only 50 male Atlanta VA Medical Center patients and therefore may have limited generalizability. However, the findings suggest that practitioners need to improve their response to glycemic indexes that indicate that diabetes is likely, particularly random plasma glucose ≥125 mg/dl (4) and A1C ≥6.5% (5). Although OGTTs were rare, abnormal results were followed quickly by a diagnosis, implying that elevated glucose levels may also be more likely to prompt a diagnosis if tests are ordered for screening rather than routine chemistry. Further analysis of the basis for the delay in diagnosis may lead to better approaches to aid recognition of diabetes early in its natural history.

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References