



Figure 1—The clinical course of the case.

hances renal actions of furosemide and suppresses furosemide-induced aldosterone activation in experimental heart failure. *Circulation* 109:1680–1685, 2004

## Seasonality in the Incidence of Type 2 Diabetes

### A population-based study

The seasonal pattern in the onset of type 1 diabetes has been described (1), but seasonality in the onset of type 2 diabetes has not been previously reported. Some studies revealed seasonal changes in glycemic control in selected cohorts of patients with type 2 diabetes (2–4). While the incidence of type 1 diabetes can be easily studied based on complete registries, the onset of type 2 diabetes is more difficult to identify and study because in the earliest stage of the disorder, mostly nonmedical approaches are applied that are not always recorded in the medical profile. In the progression of type 2 diabetes, the initiation of treatment with oral antihyperglycemic drugs is the stage at which all patients can be definitively recognized as having the disorder.

We identified all incident cases of

type 2 diabetes ( $n = 26,695$ ) for the entire population of Csongrád County, Hungary ( $n = 430,000$ ), between January 1999 and December 2004. Information was retrieved from the database of the Hungarian National Health Fund Administration, which provides a complete history of prescription drug use of the population at the patient level. Incident cases were defined as patients who had received no antidiabetic therapy during the 12-month period prior the initiation of an oral antihyperglycemic drug.

For quantifying the strength of seasonality, an autoregressive regression model was fitted to the monthly data and the coefficient of determination ( $R^2_{\text{Autoreg}}$ ) calculated (5). The results of the regression revealed a strong seasonality ( $R^2_{\text{Autoreg}} = 0.632$ ). Seasonality followed a sinusoidal pattern; the peak month was March, with a monthly incidence of  $430.3 \pm 34.0$  (means  $\pm$  SD) cases, and the trough month was August, with a monthly incidence of  $293.2 \pm 23.8$  cases. Similar patterns were found in both sexes. The months of peak and trough coincide with the peak and trough periods in the seasonality of HbA<sub>1c</sub> values previously reported (2).

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