BACKGROUND & AIMS

Drugs interfering with incretin system represent newer therapeutic options in diabetes 2nd type treatment. Growing evidence on their efficacy and safety has been suggesting a possible success in clinical routine, but also a substantial impact on pharmaceutical budgets due to a large eligible patient population. The objective was to analyze evolving consumption, public costs as well as prescription practice pattern of these incretin-based therapies, i.e. DPP-IV inhibitors (“gliptins”) and GLP-1 mimetics, between 2008 and 2013 and compare it to other drugs in the anti-diabetic portfolio.

METHODS

The pharmacy claims-based database of the General Health Insurance Company of the Czech Republic (VZP CR) covering 60% of the Czech population (6 million) was used as the data source. The utilization of the drugs of interest (ATC3 classification A10B: blood glucose-lowering drugs excl. insulins) was calculated per defined daily doses (DDD) according to WHO Collaborating Centre for Drug Statistics Methodology and related to the number of insured people. Expenditures of VZP CR between 2008 and 2013 were collected. Conversion to EUR was performed using annual means of exchange rates between CZK and EUR reported by Czech National Bank. The specialization of prescribing physicians was also analyzed. Information on pricing and reimbursement was obtained from files at the State Institute for Drug Control.

RESULTS

Since the introduction of sitagliptin in autumn 2008 its utilization rose to 2.1 DDD/TID in 2013, which makes it the first and most prescribed incretin-based drug. Overall utilization of all incretin-based therapies was 5.4 DDD/TID in 2013 (see Figure 1A) and the patient number represents 9% of all patients taking any anti-diabetic drug of the ATC A10B group (except for insulins). However, in terms of public costs (see Figure 1B) to VZP CR in 2013, incretin-based agents represented already 55% of all evaluated A10B group (blood glucose-lowering therapy, insulins excluded). In comparison, the utilization of the 1st line drug metformin between 2008 and 2013 has been annually rising by 5% to 10%, while in other groups, namely sulfonylureas and thiazolidinediones, it was declining each year on average by 2% and 15%, respectively.

DISCUSSION

The uptake of incretin-based drugs was rapid and their utilization kept rising between 2008 and 2013. However, when expressed as DDD/TID, after six years the consumption of these newer therapies was still minor compared to other well-established „older“ 1st line drugs, namely metformin and sulfonylureas. This may be probably attributed to current reimbursement restrictions and substantially higher unit costs. Unlike in utilization rate, the situation is much different in terms of overall health insurance expenditure. While prescribed to only minority of patients, incretin-based agents in 2013 already took more than a half of the budget in A10B group. The increased costs of incretin-based drugs were in small part offset by declining expenditure in other drug groups, namely sulfonylureas and thiazolidinediones, where both utilization and unit costs have stagnated or even decreased lately.

In conclusion, the overall public expenditure on anti-diabetic therapy (excluding insulins) were rising in the observation period between 2008 and 2013 and increasing utilization of incretin-based agents appears to be the main driver.

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