

Consumption trends of the new generation of antidiabetics from the Essential List of Sarajevo Canton

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Introduction

The overall aim of treatment and selection of pharmacotherapy with antidiabetics should be adjusted to the patient, considering age, disease duration, life expectancy, socioeconomic status, risk of hypoglycemia, comorbidities, developed vascular and other complications, variable nature of the disease and medication cost (Rahelić et al., 2016).

In the treatment of insulin-dependent diabetes mellitus, two types of insulin preparations are usually used, basal insulin in one to two daily doses to cover the body's basic insulin needs (extended action, medium-long action or long-lasting acting), and prandial insulin before each meal (bolus) for reduction of postprandial hyperglycemia (fast-acting preparation, rapid onset and short-term action) (EMA, 2018).

Six groups of oral medications are available today to treat insulin-independent diabetes. These are sulfonyleurea derivatives, benzoic acid derivatives, ie meglitinides, biguanides, alpha-glucosidase inhibitors, thiazolidinediones or glitazones and incretin mimetics. Within individual subgroups, there are several generations of medications with a similar mechanism of action with the constant emergence of new subgroups, which makes it much more difficult for physicians to monitor and adopt new experiences in treatment (Aganović et al., 2008; Kimmel et al., 2006; Nathann et al., 2009).

Pursuant to the Law on Medicinal Products (Official Gazette of the Federation of BiH, No. 109/12), at the

proposal of the Federal Minister of Health, the Government of the Federation of Bosnia and Herzegovina shall issue a Decision amending the Decision on the list of compulsory health insurance medicines of the Federation of Bosnia and Herzegovina. This means that the Federal List of Medicines is the basis on which each cantonal Ministry of Health draws up a positive list of Cantonal medicines and submits it to the Cantonal governments for adoption. (ZZO FBiH, 2015)

New antidiabetics are included in the essential list of medications, namely the following insulins from the subgroup A10A: long-acting insulin A10AE06 insulin degludek (Tresiba injections 100 i.j./mL, 5x3 mL), medium-acting insulin A10AC01 insulin insulin human (basal) and human insulin Insuman, 5x3 mL) and long-acting insulin A10AE04 insulin glargine (Toujeo cartridge 300 i.j./mL, 3x1.5 mL), long-acting insulin A10AE04 insulin glargine (Abasaglar susp. for injections 5x3 mL 100 i.j./mL) and insulin degludek + liraglutide insulin (Xultophy injections 100 i.j. / mL, 3x3 mL), fast-acting insulin A10AB01 human insulin (Gensulin R solution for injection 5x3 mL 100 i.j./mL.) Of the oral antidiabetics novelties on the essential list are: vidagliptin A10BH02 (Galvus tbl. 50mg 28 tbl.), lixisenatide A10BX10 (Lyxumia solution for injection at doses of 10 and 20 mcg / dose (0,2mL)), alogliptin A10BH04 (Vipidia tbl in a dose of 12.5 and 25 mg 28 tbl), vidagliptin + metformin A10BD (Eucreas in doses of (50 + 1000) mg and (50 + 850) mg), then A10BJ05 dulaglutide (Trulicity solution for injection, 4 syringes in doses of 0.75 mg / 0.5 mL) and (1.5 mg / 0,5 mL).

Materials and methods

Materials

The consumption of the new generation of antidiabetics was investigated, as well as the number of prescribed prescriptions for a period of five years, and the trend of the number of prescriptions in that period. Data on antidiabetic consumption were taken from the Sarajevo Canton Health Insurance Institute, Pharmacoeconomics Service.

Method

The comparative method was used to compare the consumption of new generation antidiabetics drugs for a period of five years, as well as the number of prescribed prescriptions.

Results and discussion

Significant increases in the costs of new antidiabetics are visible, which have significantly increased in the second year of their use, ie. their prescribing, and hence their cost. Such is the situation with Abasaglar insulin, in 2018 it was included in the list and had a cost of 766 BAM* (8 prescribed Rp), and that cost in 2019 was 19.579 BAM (206 prescribed Rp). There is also an increase in costs for Toujeo insulin, where there is an upward trajectory of costs ranging from 70,240 BAM to 1.060.992 BAM, ie, the cost in 2019 increased by 11% compared to 2017, but we do not take into account 2016 when it was included in the essential list. Also, one of the interesting examples is insulin Tresiba, which shows an upward trajectory of costs ranging from 1.954 BAM to 364.570 BAM, ie, the cost in 2019 increased by 330%, not to mention 2015 year when it was included in the essential list.

Regarding insulin Xultophy in 2018 was 4.245 BAM (number Rp 13), and in 2019 642.814 BAM (number Rp 2.059), so a significant increase in both the number of prescriptions and the cost was observed.

Of the novelties in oral antidiabetics is a noticeable increase in the cost and number of prescriptions, usually from the second year after the inclusion of the medications on the essential list. As is the case with Eucreas tbl. (50 + 1000) mg, in 2018 the cost was 10.897 bam (number Rp 198), and in 2019 it would be 278.445 BAM (5.258). The same situation is with the second dose of Eucreas tbl. One of the examples that has a significant ascending cost path is the medication Galvus, the cost

ranged from 31.342 BAM (number Rp 438) to 1.026.593 BAM (number Rp 21.195). The cost of the medication Galvus tbl. is 26% higher in 2019 compared to 2016, 2015 was not considered because it was only included in the list of medicines that year. Also, in terms of the number of realized recipes, their increase was more than 100%. As for the medication Vipidia tbl. in the dose of 12,5 mg and 25 mg, also, an increased financial cost was observed, as well as the number of realized prescriptions

**BAM (convertible mark – the currency of Bosnia and Herzegovina)*

Conclusion

The new generation of antidiabetics provides patients with better therapy but also carries with it significant financial costs.

References

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