Anti-Obesity Drugs: Still in Evolution Stage

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Published on 24th December 2019

Obesity is a leading cause of early morbidity and mortality worldwide.[1] The main strategies for managing obesity are provision of lifestyle modification advice, prescription of antiobesity drugs, and in severe cases; the bariatric surgery. Clinical guidelines advocate a stepped approach to weight management depending on the severity of a patient's obesity and whether they have weight-related co morbidities. The co-morbidities associated with obesity includes 11 common conditions such as obesity, including: type 2 diabetes, coronary heart disease, stroke, depression, osteoarthritis, back pain, joint problems, cancer, gallbladder disease, asthma and sleep apnoea.

The goals of obesity treatment are to improve or prevent complication of metabolic diseases and not weight loss alone. Hence it is not desirable to prescribe medicine to patients who only want weight loss. First approach to obesity treatment is using non-pharmacologic method such as nutrition, physical activity, and behavior therapy. If the patient does not achieve adequate weight loss by lifestyle intervention for 3-6 months, pharmacotherapy can be considered.[2]

If weight loss with lifestyle intervention is only modest, pharmacotherapy can be considered. Orlistat, lorcaserin, and combination of phentermine and topiramate are approved for long-term use. Benzphetamine, diethylpropion, phendimetrazine, and phentermine are approved for short-term use. Lorcaserin and combination of phentermine and topiramate are recently approved by U.S. FDA.[3] Orlistat partially blocks intestinal digestion of fat, therefore producing weight loss. Lorcaserin is a serotonin 2C receptor agonist. Sibutramine, a highly selective inhibitor of reuptake of noradrenaline and serotonin at nerve endings, was the most frequently prescribed drug. However, after significant cardiovascular events associated with its use, it was withdrawn from the market.[4] The combination of phentermine/topiramate produces a mean weight loss of 8-10 kg. For an obesity patient, side effects are an important factor when choosing drugs.

U.S. FDA approved use of sympathomimetic drugs such as benzphetamine, diethylpropion, phendimetrazine, and phentermine for only a few weeks, which is usually interpreted as up to 12 weeks. Phentermine is the most commonly prescribed drug in this group, and patients treated with phentermine 15-30 mg daily lost on average additional 3.6 kg of weight at 6 months compared to placebo.[5] Lorcaserin (1R-8-chloro-1-methyl-2, 3, 4, 5-tetrahydro-1H-2-benzazepine) is approved by the U.S. FDA for long-term weight management in June, 2012. Lorcaserin is prescribed at 10 mg twice daily. Three clinical studies have provided evidence to demonstrate effective weight loss compared to placebo group, along with a favorable safety profile.[6] This combination uses lower doses of phentermine (starting dose at 3.75 mg, recommended dose at 7.5 mg, full dose at 15 mg) than as a single agent. Topiramate is an extended release formulation in the dose of 23 mg at starting to 46 mg, and full dose at 92 mg recommended in weight reduction.

As obesity is the major non-communicable risk factor, the management of it stands the highest position in public health. Both non-pharmacological and phamrmacological methods are to be considered to address this health hazard.

END NOTE

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Conflict of Interest: None declared

Cite this article as: Benny PV. Anti-Obesity Drugs: Still in Evolution Stage. IMA Kerala Medical Journal. 2019 Dec 24;12(4):76–7.

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