



Cost comparisons between the cheapest and the costliest brand preparations of Rosuvastatin 10 mg + Aspirin 75 mg + Clopidogrel 75 mg

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Abstract:

Dyslipidemia is a major risk factor for atherosclerosis and the incident complications resulting from it. Atherosclerosis in turn is a risk factor for cardiovascular, cerebrovascular diseases, acute coronary thromboembolism and so on. Management of dyslipidemia is long term, mostly lifelong. Rosuvastatin a lipid lowering agent and clopidogrel and low dose aspirin as antiplatelet agents are prescribed in the routine management of patients suffering from atherosclerosis. The combinations of Rosuvastatin plus Clopidogrel plus Low dose Aspirin are available in India.

Method: The cheapest and the costliest brand preparations of the combination of Rosuvastatin 10 mg plus Clopidogrel 75 mg plus low dose Aspirin 75 mg were (henceforth called as "The Combination") were selected for cost comparisons. The daily as well as annual cost of prescription based on once daily use of "The Combination" was worked out directly as well as in percentages and presented in the form of table and bar diagrams.

Results: After careful analysis of the data it was found that the costliest brand ie Brand B is almost 2.5 times costlier than the cheapest brand ie Brand A, and can lead to huge difference in annual cost burden to the patient.

Conclusion: This significant cost difference between costliest and cheapest brands of "The Combination" assumes even further importance since majority of the patients with Atherosclerosis need to bear the cost of multiple drugs prescribed to them, on their own. Thus it rather becomes the duty of the prescribing health care provider to prescribe those medicines which are cost effective to his/her patients.

Key words: Rosuvastatin 10 mg + Aspirin 75 mg + Clopidogrel 75 mg, price, cost, annual cost

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I. INTRODUCTION

Dyslipidemia is a chronic condition which along with certain other risk factors such as diabetes, hypertension, smoking is a risk factor for Atherosclerosis and thus in turn the Atherosclerotic disorders such as coronary Artery Disease, cerebrovascular Disease¹. Its management is long term, mostly lifelong. The management of dyslipidemia and atherosclerosis includes lifestyle modification including Yogic practices, stress reduction, Medical Nutrition and diet treatment, and physical activity². The pharmacological management of atherosclerosis includes lipid lowering agents from various classes of drugs, antiplatelet agents are prescribed in addition³. Combinations of lipid lowering drug with antiplatelet drug / drugs are also available in the market. Multiple brand preparations of such combinations are available in India. As mentioned above the treatment of atherosclerosis is long term. Thus prescription of these drugs either separately or in combinations might be required for years together and, lifelong for a large percent amongst them. With long term or lifelong treatment, comes one very important aspect of drug prescription viz the ongoing cost of the medication, to the patient. Thus the prescribing health care provider must take into consideration the cost of the medicine. A large number of brand preparations of these drugs are available in the Indian market. The authors undertook a comparative cost study between the cheapest and the costliest brand preparations of Rosuvastatin 10 mg plus Clopidogrel 75 mg plus Aspirin 75 mg. as described in detail in methodology.

II. MATERIALS AND METHODS:

The present study was conducted in Kolhapur city , in Maharashtra state , India . The cheapest and the costliest brand preparations of Rosuvastatin 10 mg plus Clopidogrel 75 mg plus Aspirin 75 mg . were selected for the study (henceforth called as “ The Combination”) . Based on this the price of strips of 10 capsules of these two brand preparations were noted . These prices were the MRP (Maximum Retail Price) available to the patient

Inclusion criteria :

- 1) Fix dose combinations of only Rosuvastatin 10 mg plus Clopidogrel 75 mg plus Aspirin 75 mg were selected for the study.
- 2) Only the trade or brand preparations were selected.

Exclusion criteria:

- (1) Other variations such as those containing Rosuvastatin in quantities other than 10 mg were excluded
- (2) Generic preparations were excluded from the study to maintain the uniformity in comparison

The cheapest brand preparation was code named as brand A while the costliest brand preparation was code named as brand B to maintain confidentiality.

From the price of 10 capsules , the price of one capsule was calculated . Considering once daily dosing , the cost of one capsule , which indicates cost per day , was calculated . The annual cost of prescription based on the use of The Combination based on once daily use was also worked out .Further this data was also converted in percentage form considering the cheapest brand price that is of brand A as 100% and that for other brand preparation ie brand B was also calculated accordingly. The data was presented in tabular form and bar diagram form .

III. RESULTS:

Table 1 shows price of 10 capsules and price of one capsule of both the brands of The Combination .

The price of one capsule indicating daily cost to the patient, and the annual cost of the prescription is presented in table 2 and bar diagram 1(Fig:1). Accordingly , Brand A is the cheapest while Brand B is the costliest one .

The Brand B is almost 2.5 times or almost 250 percent costlier than Brand A .

Thus it can be seen from the Tables that the annual cost of Brand B(6497 rupees annually) which is the costliest amongst all the brands , is almost 2.5 times that of the cheapest brand ie Brand A(2628 rupeesannually) . All remaining available brand preparations will fall in between these two brand preparations as far as daily and annual cost is concerned .

Table 3 depicts the annual coasts of both the brand preparations in the form percentages considering cheapest brand that is brand A as 100%.thus it was observed that the cost of costliest brand that is brand B is almost 250 percent of that of the cheapest brand (brand A).

Figure 1 The bar diagram showing the annual cost of the two brand preparations considering once daily dosing .

Figure 2 The bar diagram presents the annual coasts of the two selected brand preparations of The Combination in the form percentages considering cheapest brand that is brand A as 100%.thus it was observed that the cost of costliest brand that is brand B is almost 250 percent of the cheapest brand (brand A).

IV. DISCUSSION:

While prescribing any medication the physician considers many factors . One important factor is considering the cost of the medicine to the patient . Considering the cost assumes more importance when the medication might be required long term or even lifelong . Thus The Combination of Rosuvastatin 10 mg plus Clopidogrel 75 mg plus Aspirin 75 mg as used in patients suffering from atherosclerosis in carefully chosen patients is required long term perhaps lifelong in majority of the patients . India is a country where great economic disparity exists . The poor patients definitely need to focus a lot on the cost factor . Indian government has some regulations in place as far as the cost of medicines is concerned ⁴ . But in spite of this , a large difference in cost may exist between various brands of the same drug or drug combinations . The present study was undertaken to study the cost disparity between two brand preparations , one of these , the costliest one available in the local market while the other , the cheapest one . of The combination of Rosuvastatin 10 mg plus Clopidogrel 75 mg plus Aspirin 75 which are available at the local market in Kolhapur , where the study was conducted , are compared considering the cost of one capsule which is indicative of cost of medication per day , and annual cost of each brand preparation were compared . It is found that there is 2.5 times cost variation between the cheapest and the costliest brand preparations, 2628 rupees vs. 6497 rupees of annual cost of Brand A and Brand B respectively . Considering the findings of the present study , we recommend that the prescribing health care provider should include cost considerations while prescribing The combination to his / her patients . Selection of a brand preparation is a personal choice of the physician . This choice is in turn based on many factors such as availability of that brand preparation , physicians experience with a particular brand

preparations and certain other factors ⁵. Last but not the least factor is the cost . This factor assumes even more importance in a country like India where a large socioeconomic difference is seen . Another factor is , that majority of the Indian patients pay the costs of the medications from their own pockets , since medical insurance is still accepted by very few percent of our population ⁶. Still another factor to consider is that many of the patients suffering from atherosclerotic disease also likely suffer from other co morbidities . And thus they might also be prescribed amongst one or more of the other Antidiabetic such as sulfonylureas , insulin etc as well as , antihypertensive etc. This further adds to the annual cost of the medications and thus patients are more likely to be highly sensitive about the drug cost factor . Thus it rather becomes a duty of the prescribing physician or health care provider to prescribe those medicines which are cost effective to his / her patients . In addition , discussion about the cost burden with individual patient must be a routine practice.

V. CONCLUSION:

Cost of medications in patients with atherosclerotic disease should be a major factor guiding the prescription practices of the health care providers . This is especially relevant in a country like India where the patients are highly price sensitive , considering that majority of the patients are not covered by medical insurance and the likelihood of multiple drugs being prescribed to the patients suffering from atherosclerotic disease when these also carry co morbidities.

Table1: price of 10 capsules and price of one capsule of the cheapest and the costliest of the brand preparations of {Rosuvastatin 10 mg plus Clopidogrel 75 mg plus Aspirin 75 mg} , Fixed Dose Combination

Brand code name	Price in rupees for ten capsules	Price in rupees per capsule
A	72	7.2
B	178	17.8

Table 2: the daily as well as the annual cost of the cheapest and the costliest of the brand preparations of {Rosuvastatin 10 mg plus Clopidogrel 75 mg plus Aspirin 75 mg}, Fixed Dose Combination

Brand code name	Daily cost with once daily dosing	annual cost with once daily dosing
A	7.2	2628
B	17.8	6497

Table 3: the percentage comparison of the cost of the cheapest and the costliest of the brand preparations of {Rosuvastatin 10 mg plus Clopidogrel 75 mg plus Aspirin 75 mg}, Fixed Dose Combination.

Brand code name	cost comparisons between brands in percentages#
A	100 %
B	247 %

The percent price of the cheapest brand, i.e. .Brand A is taken as 100 %.

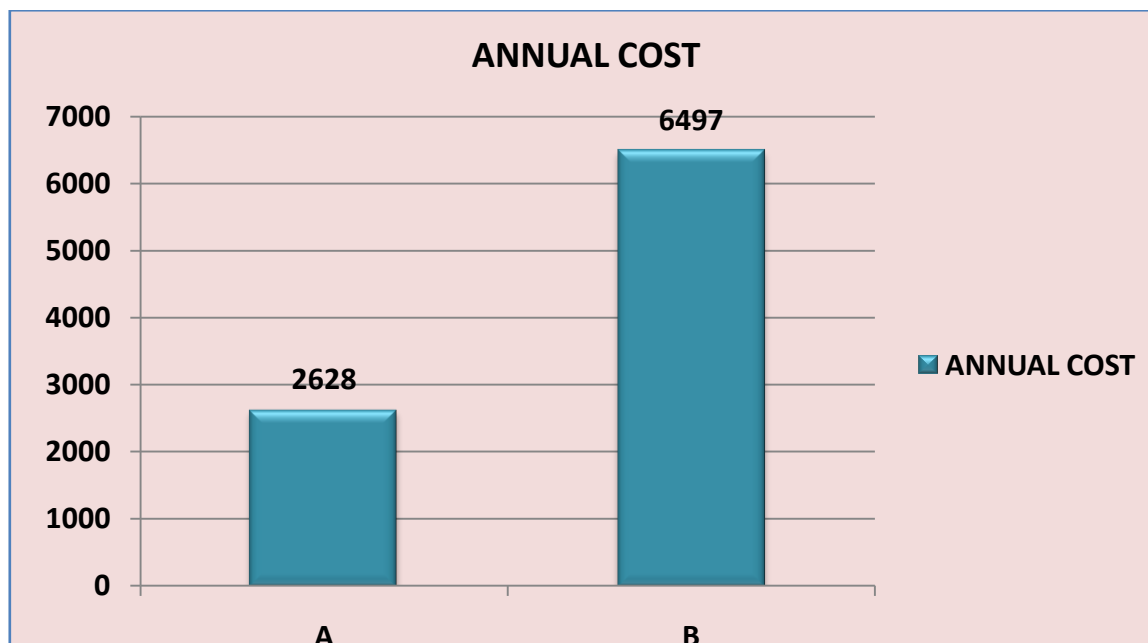


FIG1: the daily as well as the annual cost of the cheapest and the costliest of the brand preparations of {Rosuvastatin 10 mg plus Clopidogrel 75 mg plus Aspirin 75 mg} , Fixed Dose Combination

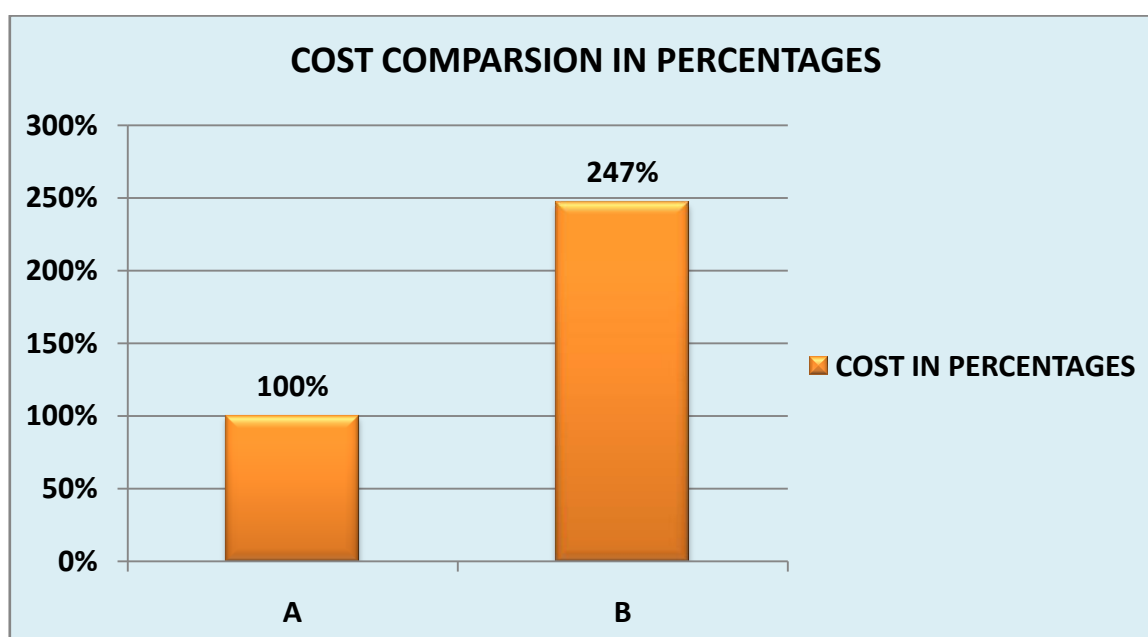


FIG: the percentage comparison of the cost of the cheapest and the costliest of the brand preparations of {Rosuvastatin 10 mg plus Clopidogrel 75 mg plus Aspirin 75 mg}, Fixed Dose Combination.

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