

## INTRODUCTION

CVD (Cardiovascular diseases) affects Indians with greater frequency and at a younger age than counterparts in developed countries, as well as many other developing countries. CVD manifests in India almost 10 year earlier on an average than other countries in the world, resulting in substantial number of deaths in working age group.<sup>4</sup> This calls for the need to develop effective and economical treatment measures to address the issue. In classical Ayurvedic texts there is mention of various therapeutic procedures which can be adopted for improving the functional capacity and quality of life in patients with cardiovascular diseases.

The present study has been planned to evaluate the efficacy of IRP (Ischemia reversal program), a combination of *Snehana* (Oleation), *Swedana* (fomentation) and *Basti* (medicated enema) on improving the functional capacity and quality of life in patients with Ischemic heart disease (IHD).

## Materials and Methods:

### Inclusion and Exclusion criteria:

Patients of either sex, between 25 to 65 years of age with clinical diagnosis of Stab and time of onset of ischemia with stress test by M. Bruce protocol in between 60 to 600 seconds, significant occlusion in branches of coronary artery seen in CAG report were recruited in the study. Pregnant or lactating females or females planning to become pregnant during the course of the study, those with acute heart failure, acute decompensated heart failure attack within last 3 months were excluded from the study.

Patients who were not on stable dose of standard treatment of chronic heart failure since last 3 months and needed upward dose titration, patients with uncontrolled hypertension (Systolic blood pressure (SBP) more than 150 and Diastolic blood pressure (DBP) more than 90) & Blood sugar level (fasting below 60 and Post Prandial above 250) and patients with anaemia (Haemoglobin less than 10gm%) were also excluded from the study.

### Ischemia Reversal Program (IRP):

The IRP therapy consists of three steps:

a) *Snehana* (Oleation) which involves oil massage with Sesame oil. The procedure was carried out

for 20 minutes with 15 to 30 strokes, followed by *Swedana* (fomentation).

b) The *Swedana* was done by asking the patient to lay down in supine position in a wooden box with his/her neck outside the box for 15-20 minutes or till the patient was able to tolerate the procedure.

c) Further *Basti* (per rectal drug administration) of 100 ml decoction of medicated herbs (*Tribulus terrestris*, *Curcuma longa*, *Phyllanthus emblica*) was administered to the patient by the rectal route.

### Dose and Duration of treatment:

The IRP therapy was administered as 1 therapy daily for 7 Days i.e. 7 IRP therapies & 23 days of follow up. The therapy was administered at 10 am in the morning, maintaining a gap of atleast 24 hours in between two therapies.

## Methods of Evaluation

The detail history of the patient along with demographic information such as age and sex of the patient was recorded on Day 1.

Further the patients were classified based on the cardiac functional capacity as per NYHA (New York Heart Association) classification before and after treatment.

The stress test was conducted on Day 1 and day 30 to evaluate the effect of IRP on the stress test duration, metabolic equivalents (METs) and Time of onset of ischemia.

The patients were also assessed for improvement in the symptoms of IHD and overall health, any other associated complaints and requirement of concomitant drug usage before and after the study.

## RESULTS

The IRP therapy was administered to 29 patients, of whom 26 were male and 3 were female. The mean age of the patients recruited in the study was 58.93 ± 7.61 years.

At the baseline the average weight of the patients was 73.03 ± 14.20 Kg which was decreased to 70.84 ± 13.46 Kg at the end of IRP therapy (Day7).

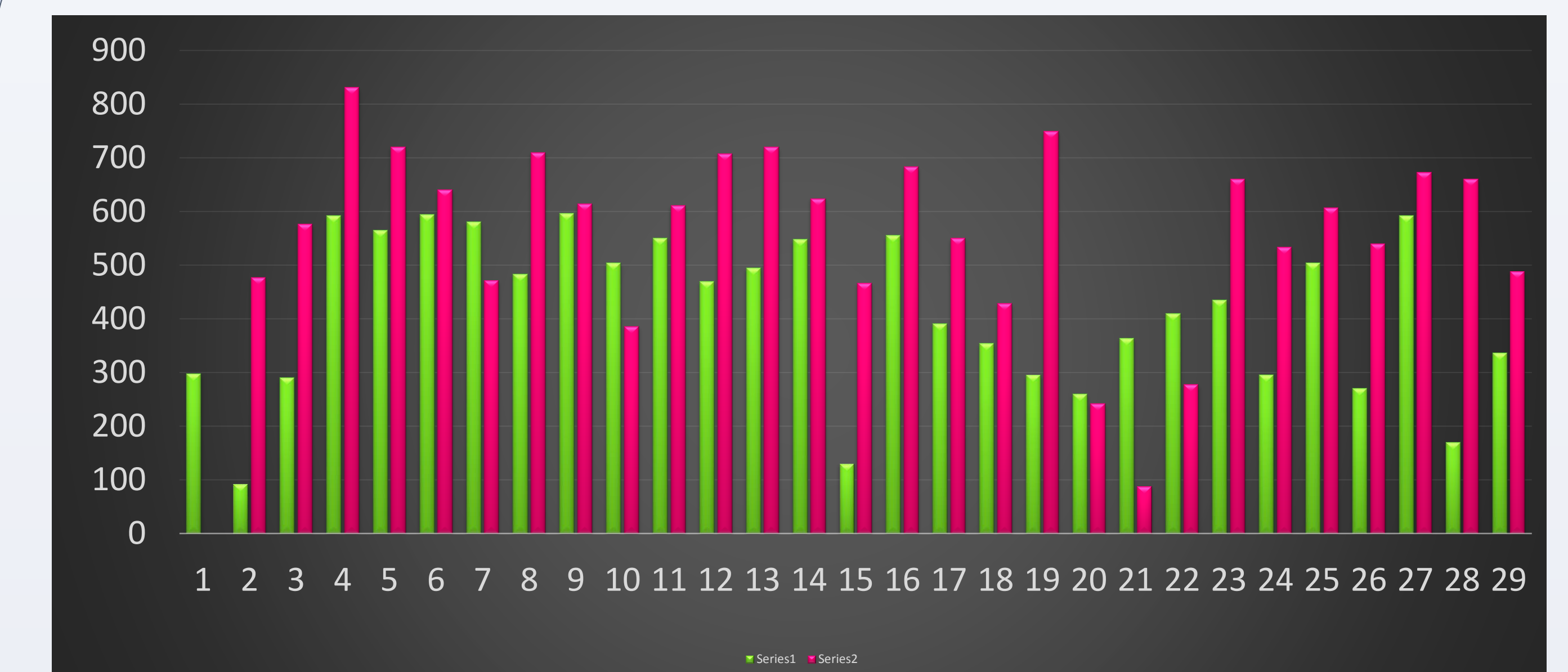
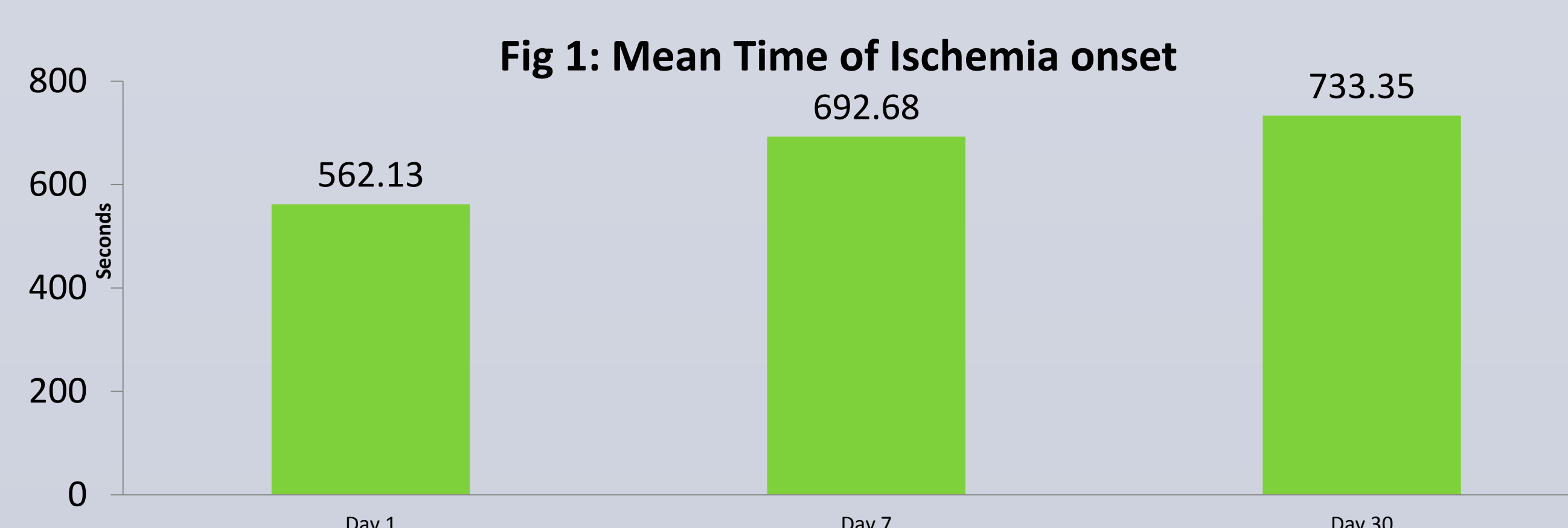


Figure 2: Ischemia onset values of each patient for Day 1 (Series 1) and Day 30 (Series 2).

Figure 2 showing the change in ischemia onset values of each patient at day 1 and day 30. Most of the patients showed an increase in ischemia onset value, thus showing the positive impact of the treatment.

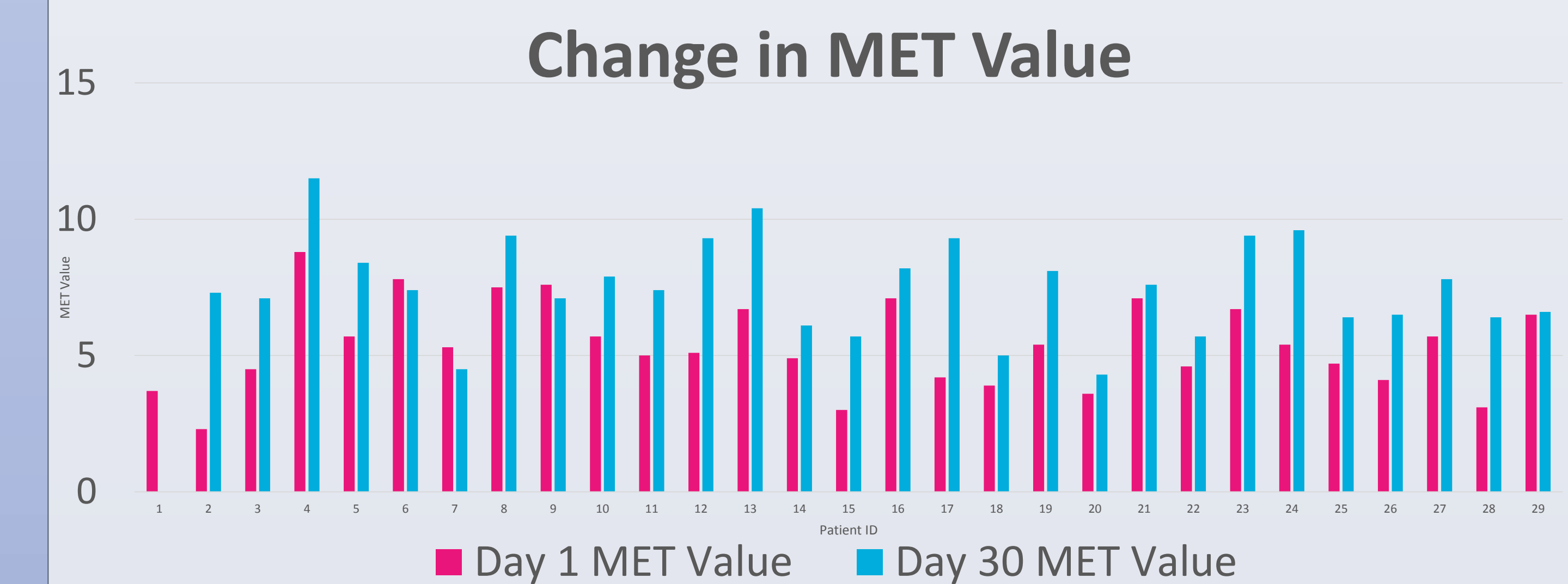


Figure 3: Change in MET value of each patient from Day 1 to Day 30.

Figure 3 showing the change in MET values of each patient at day 1 and day 30. Most of the patients showed an increase in MET value, thus showing positive impact of treatment.

## CONCLUSION

Ischemia Reversal Program (IRP) when administered as add on therapy to conventional treatment may improve blood supply to myocardium & reduced symptoms of angina to improve quality of life in patients with stable Ischemic Heart Disease (IHD).

## References:

- Shokeen D, Aeri BT (2015) Risk Factors Associated with the Increasing Cardiovascular Diseases Prevalence in India: A Review. J Nutr Food Sci 5: 331.
- Walia R et al. High prevalence of cardiovascular risk factors in Asian Indians: A community survey - Chandigarh Urban Diabetes Study (CUDS) Indian J Med Res. 2014 Feb; 139(2): 252-259.
- Rajeev Gupta. Epidemiology and regional variations in cardiovascular disease and risk factors in India. J. Preventive Cardiology Vol. 1.No. 1. August 2011.
- Gupta R. Burden of coronary heart disease in India. Indian Heart Journal. 2005; 57: 632-8, Yusuf S, Hawken S, Ounpuu S, Dans T, Avezum A, Lanas F et al. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. Lancet. 2004; 364:937-52.

## Further Information

IRP treatment can be made available at Madhavbaug clinics spread across Maharashtra and Goa. The website of Madhavbaug can be visited <http://www.madhavbaug.org/> for further details and complete guidance.