Regulation of Cardiovascular Functions with Abana
(An Experimental Study)

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INTRODUCTION
Coronary heart disease and its complications include a wide variety of functional disturbances
and therefore their management requires multi-drug therapy. Many drugs have been
advocated in the regulation of cardiovascular functions. The side effects of the modern drugs
are well known. In recent years more attention has been drawn to an indigenous cardiotonic
compound “Abana” (Himalaya), which may prove to be useful in the prevention and
management of coronary heart disease.

MATERIALS AND METHODS
Six adult male guinea pigs were taken for experimental study. The heart rate was recorded by
direct pulsation and also by ECG. Arterial pressure was measured by direct insertion of a
cannula in the femoral artery. After initial recording of the heart rate and arterial pressure,
adrenaline was injected. The changes in the heart rate and pulse pressure were recorded
following the injection. The drug Abana was mixed with distilled water and administered
orally in a dose of 1 gm/kg three times a day for five days. Adrenaline was injected again in
the same dose at the end of the fifth day and the pulse rate and arterial pressure were again
measured.

RESULTS AND OBSERVATIONS
Heart Rate
The initial heart rate was 218.50 ± 28.725 per minute. After injection of adrenaline the pulse
rate increased to 282.72 ± 39.825 per minute. After oral administration of Abana the heart rate
was again recorded. We noticed a lower heart rate in comparison to the initial basal
recordings. The average heart rate was found to be 212.75 ± 28.725 per minute. When
adrenaline was again injected in the same dose after five days of Abana therapy, the
difference was found to be significant (p<0.05) (Table 1, Fig. 1).

Arterial Pressure
The initial arterial pressure was 56.84 ± 12.725 mm Hg. But after injection of adrenaline the arterial pressure was raised to 78.92 ± 10.725 mm Hg and after oral feeding of the drug the average arterial pressure was 54.75 ± 16.425 mm Hg (Table 1, Fig. 2). After injection of adrenaline at the end of 5 days of Abana therapy, the arterial pressure was 64.42 ± 12.25 mm Hg. The drug Abana decreased arterial pressure following adrenaline injection.
These results clearly indicate that Abana decreases the heart rate and also reduces the arterial blood pressure.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>No. of animals</th>
<th>A Initial rate</th>
<th>B After adrenaline injection</th>
<th>C After oral administration of Abana</th>
<th>D After adrenaline injection (following 5 days of Abana)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart rate (per minute)</td>
<td>6</td>
<td>218.500 ± 28.725</td>
<td>282.72 ± 39.825</td>
<td>212.75 ± 28.725</td>
<td>248.85 ± 30.382</td>
</tr>
<tr>
<td>Arterial pressure (mm Hg)</td>
<td>6</td>
<td>56.84 ± 12.725</td>
<td>78.92 ± 10.725</td>
<td>54.75 ± 16.425</td>
<td>64.42 ± 12.225</td>
</tr>
</tbody>
</table>

Comparison: B group vs D group
Heart rate: B vs D \( p<0.05 \)
Arterial pressure: B vs D \( p<0.05 \)

**DISCUSSION**

From the above it is evident that the drug Abana reduces the heart rate. Thus Abana may be useful in the management of sinus and anxiety tachycardia. There is a possibility that continuous tachycardia may ultimately terminate in myocardial infarction or congestive cardiac failure. Abana may prove more useful in the regulation of the heart rate and thus it may prevent coronary artery disease and congestive cardiac failure.

The arterial pressure was also reduced significantly after oral administration of Abana. Therefore Abana may also be useful in the reduction of high blood pressure and prove to be more useful in the prevention of angina and myocardial infarction. The present experimental study is preliminary. More precise and repeated clinical and laboratory investigations are required to prove the beneficial effect of Abana in the prevention and management of coronary heart disease.
SUMMARY
The present experimental study has been designed to investigate the effect of an indigenous drug Abana in the regulation of cardiovascular functions. Six guinea pigs were given Abana orally for five days. The heart rate and arterial pressure were recorded before oral administration of Abana following intravenous injection of adrenaline. At the end of the 5th day adrenaline was again injected intravenously in the same dose in order to enhance the heart rate and arterial pressure. It was observed that both the pulse rate and arterial pressure were reduced after Abana therapy. It can be concluded that Abana may be useful in the prevention and management of coronary artery disease.

REFERENCES

