Role of Buclizine Hydrochloride in Promoting Weight Gain in Children.

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Introduction

BUCLIZINE HYDROCHLORIDE was introduced as an antihistamine in 1955. It was then found that it is an appetiser and can be used to increase weight.

Many workers used the drug with a view to study its effect on weight gain. Many clinical trials were undertaken and it was noted that all patients showed an increase in the desire for food intake. There was a feeling of well being due to the tranquillisizing effect, weights started increasing after two weeks, and reached the peak in two months. An increase in weight was maintained even after the drug was stopped.

Mode of Action

The exact mode of action of this drug is not known, but slight hypoglycemia is suggested as the cause, as a result of the information supplied by glucose receptors situated in the liver and in the ventromedian and the lateral nucleus of the hypothalmsus. A slight reduction in the glucose level in blood would then stimulate the glucose receptors of the hunger centre and inhibit those of the repletion centre (J. Close).

Buclizine would act as inhibitor of cell enzymes and produce a condition of tissue anoxia with an increased peripheral utilisation of glucose and consequently cause hypoglycemia. In addition, tissue anoxia results in decreased gluconeogenesis. This has a protein saving effect.

Taking into consideration this information, and the fact that many children within the 3-10 years age group are under-nourished and under-weight, as a result of greater interest in the surroundings than in food, a double blind trial was undertaken to find out the anabolic effect of Buclizine hydrochloride.
Patients and Method

Patients were divided into two groups DB and DP (DB patients were supplied with the drug, DP patients were supplied with placebo). The dose was one teaspoon, twice a day.

The trial was conducted with no differentiation being made between patients, on the basis of sex. The weights of the patients were recorded every week. The drug and the placebo were administered for two months and patients were observed for the next 3 months for increases in weight.

The children chosen were such that they had no other disease except for general disinterest in food.

Observations

Table I

<table>
<thead>
<tr>
<th>Group</th>
<th>Initial No.</th>
<th>Dropped out</th>
<th>Completed trial</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. B.</td>
<td>22</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>D. P.</td>
<td>23</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>8</td>
<td>37</td>
</tr>
</tbody>
</table>

In all, 45 patients participated in the trial, 22 were placed in the DB group and 23 in the DP group. Out of them, 3 in the DB group and 5 in the DP group did not come for the follow up. 19 patients from the DB group and 18 from the DP group completed the trial.

Table II

Effect on Weight, at the end of 3 Months

<table>
<thead>
<tr>
<th>Group</th>
<th>Increased in weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Patients</td>
</tr>
<tr>
<td>D. B.</td>
<td>19</td>
</tr>
<tr>
<td>D. P.</td>
<td>18</td>
</tr>
</tbody>
</table>
All the patients in the DB group showed increases in weight, the range of weight increase being from 1 kg to 5 kgs. in 3 months, the mean being 3.13 kgs. In the DP group, increases in weight varied from 0.5 kg to 4 kgs., the mean weight increase being 2.19 kgs. approximately.

**Table III**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean increase in weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. B.</td>
<td>3.13 kgs.</td>
</tr>
<tr>
<td>D. P.</td>
<td>2.19 kgs.</td>
</tr>
</tbody>
</table>

**Discussion**

As seen from tables No. II and III, there is an increase in weight in both groups of patients, but the mean increase in weight in the DB group is more than that in the DP group, mean difference between the two groups being 0.94 kgs. However, it was seen in the DB group, that out of 19 boys, 8 attained normal weight in 3 months, five were slightly more than normal, (were in the 50th percentile) and 6 were slightly lower than normal in weight.

In the DP group, only four attained normal weight, none weighed more than normal. The others in the group lagged behind normal by 0.5 kg to 1 kg., but weight did increase gradually in the DP group, to a considerable extent.

Almost all patients on buclizine hydrochloride had a feeling of well being. None of the patients on buclizine showed any toxic effects.

As the trial was conducted on patients who continued the same diet, while on treatment and without it, and as the mean difference of weight between DB and DP is significant, there is some assurance that Buclizine hydrochloride is useful as an appetiser and has some anabolic effect. Some more trials of this nature, in this field, would prove helpful.

**Acknowledgement**

We are thankful to Messrs. Uni U.C.B. for the help given for conducting this trial and for the supply of drugs.