COMBINATION THERAPY IN TYPE-II DIABETES MELLITUS

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SUMMARY

The objective of this prospective study was to study the effect of addition of a sulphonylurea in uncontrolled type-II diabetics, who were started on Insulin, without achieving satisfactory control. Main outcome of the study was that these patients' control of blood sugar improved with the addition of a sulphonylurea.

INTRODUCTION

A significant proportion of patients with Type-II i.e. Non Insulin Dependent Diabetes (NIDDM) develop secondary resistance to sulphonylurea.[5,6,7]

These patients need to be transferred to Insulin therapy. Many of these fail to show the expected response to Insulin as a sole therapy, and require high doses of Insulin, consequently they are prone to hypogly-caemia and hyperglycaemia. Many diabe-tologists have reported good results with the addition of a sul-phonylurea.[2,5,6,7,9,10,12]

MATERIAL AND METHODS

This study was carried out at the Endocrinology ward at the Postgraduate Medical Institute, Lady Reading Hospital, Peshawar, between September 1995 and December 1997. Twenty patients who were not controlled on maximum doses of sulphonylurea were transferred onto Insulin without achieving satisfactory control. So a sulphonylurea in a dose of 5-20 mgm was added. Blood sugars were checked round the clock. Mean age of the patients was 46.6 years. Majority were females 9:1 female: male ratio.

RESULTS

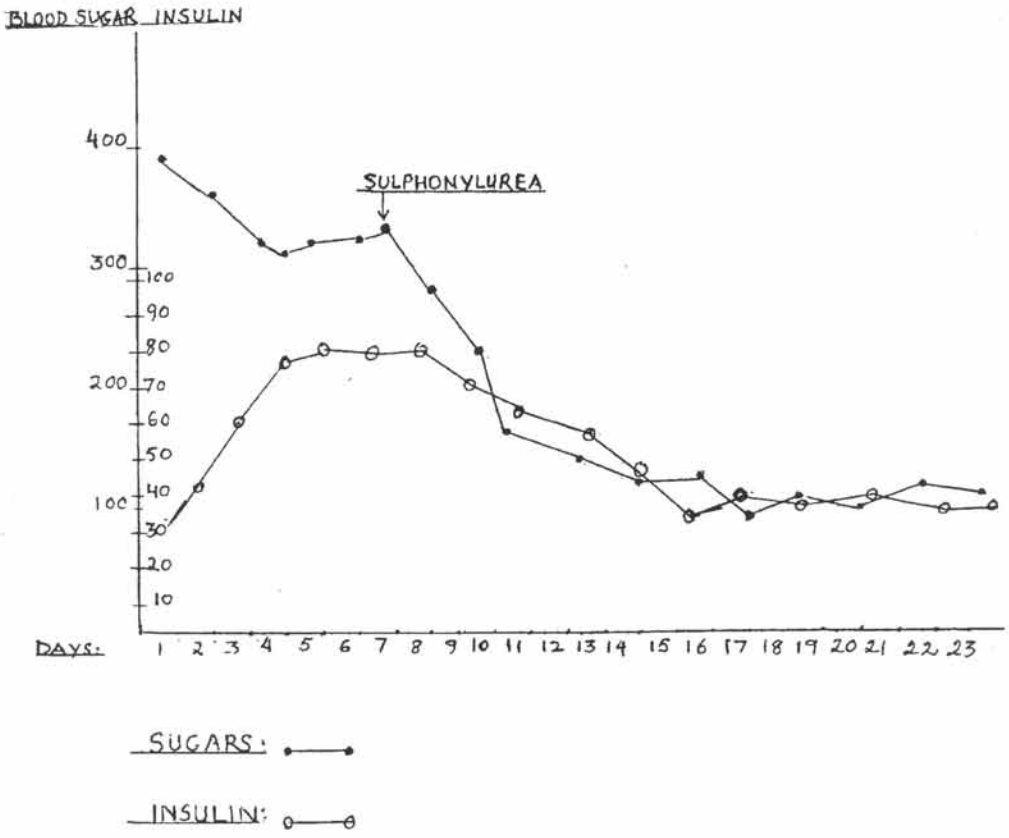
Twenty patients whose blood sugars were above 300 mgm most of the times on Insulin, with the addition of a sulphonylurea in an average dose 5-10 mgm brought them under control. Eighteen out of twenty patients blood sugars ranged between 70-180 mg% most of the time. The insulin requirement also fell from the average dose of 60-70 units daily to 30-40 units per day. These results show a significant difference ($P < .05$) between the mean blood sugar level before and after the addition of sulphonylurea in these Type-II diabetic patients and similarly a significant difference ($P < .05$) was found in the mean Insulin after addition of a sulphonylurea.

Two patients had partial response that their blood sugar responded by coming down to around 180 mg%. One on the third day and the other one also did not stay long enough to be studied.

DISCUSSION

One comes across Type-II diabetics who develop secondary resistance to a sulphonylurea and lose control even after maximum doses and diet. These patients

GLYCAEMIC RESPONSE OF COMINED THERAPY IN TYPE II DIABETES



who were transferred on to Insulin, required 70 to 90 units per 24 hours initially, but they did not achieve control.

Eighteen out of twenty patients showed improvement in their glycaemic state after adding sulphonylurea. Blood glucose fell from a mean of 320 mgm% to a mean 158mgm% after 72 hours of commencing the treatment and improved further to about 110 mgm% on average, after two weeks.

One patient did not show good response. This is blood sugar fell from 250 mgm to about 180 mgm and second absconded on the third day, although some improvement in her blood sugars was observed.

These patients were not controlled alone on Insulin. Moreover increasing the dose led to hypoglycaemia with rebound hyperglycaemia. By adding a sulphonylurea, reasonable control was achieved. Mostly used drug was Gilibenclamide in a dose of 5-10 mgm/day in most of the patients, which was added around the 7th day.

It is not clear how the addition of a sulphonylurea can improve the status, as on its own it was not of great benefit. It is postulated that some how the receptor response to Insulin and the function of Beta cells may be improved as poor metabolic control is associated with an alteration in insulin receptor regulation in NIDDM,[13] and this improves as control improves.

a. The dose of Insulin fell from average of 70-90 units to about 30-40 units/day.

b. Hypoglycaemias and rebound hyperglycaemias were avoided.

c. Cost was reduced as the Insulin dose requirement fell.

d. Confidence of patients was restored so control became easier as the patients followed dietary and treatment instructions properly.[6,16]

So we recommend that a sulphonylurea for smoother control may be added in some Type II (NIDDM) patients who do not achieve satisfactory control on Insulin alone.

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