A single center experience with FIAsp continuous subcutaneous insulin infusion at 12 months and beyond- An Update

INTRODUCTION

Due to faster absorption and onset of action, ultra-fast acting insulins such as fast acting aspart insulin (FIAsp), may achievegreater prandial sugars control in users of continuous subcutaneous insulin infusion (CSII). It is unclear whether these potential benefits are sustained.

METHODS

Ambulatory glucose profile including time in range (TIR), time below range (TBR), time above range (TAR), hyper- and hypoglycaemias and HBA1C were assessed in 23 patients who remained on FIAsp CSII for more than 12 months.

RESULTS

Of all 23, 44% male and 56% females had a mean age 43± 15 years. Follow up results for 19 of all, showed a mean TIR of 66 ±19 %, (range 17-90%). Moreover, TBR was 3.0 ±3.70 (range 0-15%). Improved HBA1C of 54±9.90, (range 43-76mmol/mol), and reduced basal insulin of 20±14, (range 2-58 units). These results show a statistically significant change since switching to FIAsp (non-FIAsp HBA1C 60 ± 18mmol/mol, non-FIAsp basal insulin 25 ± 18units), $P < 0.05$. Ninety percent (n=17) of the participants had stable hypoglycemia frequency. However, 37% (n=7), reported unexplained hyperglycemia with probable reported reasons being infusion set leakage, blockage, or skin irritation/reaction.

CONCLUSION

FIAsp can be successfully used as CSII with TIR, TBR and HBA1C remaining stable on continued use 12 months and beyond. However, 1/3rd of FIAsp users may experience unexplained hyperglycemia with long term usage. Probable reasons for this include cannula site leakage, blockage or skin irritation.