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The benefits of using the i-Port system on insulin-dependent patients

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Background: Patients with insulin-dependent diabetes mellitus (IDDM) show low adherence to insulin injections, which results in poor glycemic control. The i-Port advance is a new advanced injection method. Our aim is to evaluate patient satisfaction, glycemic control, and adherence while using this device.

Methodology: This prospective study examined IDDM patients. Baseline characteristics and Diabetes Treatment Satisfaction Questionnaire status (DTSQs) were collected at baseline and at the end of the follow up. All patients were trained to use the i-Port. We divided them into two groups: regular users of the i-Port who used it for >3 months, and irregular users who used it for <3 months. The local complications during use of the i-Port were recorded.

Result: Of the total of 55 patients, 92.7% had type I diabetes, the mean age was 14.96+8.95, 92.7% were used an insulin pen. The patients were divided into 27 regular users and 28 irregular users. Irregular users had a longer duration of DM ($p=0.901$) at baseline and compared to the regular users, and they were less likely to report non-compliance with insulin usage ($p=0.338$), more likely to self-inject insulin ($p=0.038$), and had lower HbA1c ($p=0.056$). There was no statistical difference in the mean DTSQs score or the mean glycemic control score between groups. At the end of the follow up, the regular i-Port usage improved compliance with insulin usage ($p=0.028$), reduced diabetes-related hospitalization ($p<0.001$), and reduced the frequency of hypoglycemia ($p=0.184$). Scarring at the i-Port site was the most common complication.

Conclusion: Regular i-Port usage improved compliance and decreased hospitalization and hypoglycemic episodes with a non-significant 0.73% reduction in HbA1c.

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