OBSERVATIONS

Bent Needles: Another Problem in Glycemic Control

Achieving and maintaining tight glycemic control has been the aim of modern diabetologists in the bid to prevent long-term complications of diabetes. In spite of advancement in insulin therapy and devices for its administration (syringes, pens, and needles) making insulin more acceptable to patients, there still remain a few setbacks to treatment efficacy. We report two cases of bent needles as a major contributor to poor glycemic control in patients on insulin therapy (1,2).

B.S., a 51-year-old male truck driver with type 2 diabetes, was on oral hypoglycemics for 13 years; as with many type 2 diabetics, insulin therapy was initiated because of poor glycemic control (A1C 13.7%, fasting glycemia 367 mg/dl, and postprandial glycemia 365 mg/dl) and development of microvascular complications (background retinopathy and microalbuminuria with normal renal function).

B.S. was started on Novo Mix 30 (Novo Nordisk) at two injections per day in addition to other medications. Because he feared injections, he used 31-g, 6-mm needles instead of the recommended 12-mm needles, and he did not show any improvement in his glycemia despite good control at the hospital.

Z.F., a 70-year-old woman with type 1 diabetes for 35 years and with microvascular complications, which included diabetic nephropathy with low/moderate renal insufficiency, autonomic/peripheral neuropathy, and proliferative retinopathy previously treated with laser therapy, was on thrice daily insulin lispro (18–20 IU in total) (Eli Lilly) and 18 IU bedtime glargine (sanofi-aventis) in addition to other relevant medications. She had a very variable diurnal glycemia with episodes of hypoglycemia and hyperglycemia and A1C 10.1% and complained of frequent malfunction of her insulin pens.

After other possible causes of poor glycemic control had been ruled out, needles previously used by these patients were inspected and some were found to be bent. When their attention was drawn to this problem, the glycemic control in these patients improved without any change in their respective medications.

Reducing needle size and length to minimize pain and improve patient compliance with insulin injections may be laudable, but this must in no way compromise the strength of these needles, which could eventually defeat the rationale behind their invention. Patients must be educated to check their needles before and after each use if there is a malfunction of their insulin pens. Clinicians need to look out for bent needles in cases of poor glycemic control in patients on insulin injections. And needle manufacturers may take into account the risk of bending (not just the tip but also the base) when putting thinner needles on the market (3).

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