Multiple allergies to human insulin in the treatment of type 2 Diabetes

E. Matthews, A. Sharma, S. Farooque, D. Gable

Department of Metabolic Medicine, Imperial College Healthcare NHS Trust, St Marys Hospital, Paddington, London W2 1NY

INTRODUCTION

• Once T2DM has been present for many years, lifestyle measures and oral agents will require the addition of insulin therapy.
• Insulin can be difficult to use appropriately and patients can feel that they do not tolerate the insulin therapy.
• However, absolute contraindications to insulin secondary to true allergy is rare and the patients difficult to manage.

CASE HISTORY

• 52 year old female with a long history of T2DM leading to the development of retinopathy and Neuropathy.
• Developed widespread erythematous rash, local hyperpigmentation and swelling at the injection sites of her Humulin I, with similar symptoms occurring to with a number of other insulin.
• All insulin medications were stopped and she was left only on metformin, saxagliptin and dapagliflozin.

INITIAL INVESTIGATIONS

• The patient was referred to a specialist in drug allergy.
• Specific IgE to insulin was raised (3.39 kUA/L).
• Intradermal testing to IgE was positive for all insulins tested except Hypurin Bovine Lente.
• Hypurin Bovine Lente is the only insulin not to contain the excipient metacresol.
• It has not yet been possible to test the patient’s sensitivity to pure metacresol.
• Interestingly, there was no intradermal sensitivity to other, non-insulin medications that contain metacresol.

TREATMENT

• Once tolerance to Hypurin Bovine Lente had been established through intradermal testing, she was started on a regimen of this insulin; HbA1c reduced from 121mmol/mol to 73mmol/mol over the course of five months.
• Hypurin Bovine Lente will not be available in the UK for much longer, meaning alternative treatments need to be explored.
• The patient has been referred for consideration of bariatric surgery.

DISCUSSION POINTS

• Insulin allergy is rare but there are a number of reported cases.
• Generally, allergies were to bovine insulins and therefore there has been a decreased in incidence since the advent of human insulins.
• There is no obviously superior management option, and a patient-specific approach is needed.
• Successful management in literature ranges from specific immunotherapy, to desensitisation regimes and continuous subcutaneous insulin.
• Hopefully, in this case, bariatric surgery will obviate the need for insulin.

References: