Tackling insulin maladministration

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Insulin maladministration is an important cause of harm to patients in the community and in hospitals. Major errors have been identified in the incorrect use of pumps and pens, often because staff are unfamiliar with equipment. There are also issues when prescriptions are given over the telephone, for example 50 units can be confused with 15 units, or when units are abbreviated to “U”, where it can be confused with 15 units, or when attempting to give the dose, it seems to jam; he tries again but it is not giving the insulin. He gets a syringe and needle, draws 2.5ml from the cartridge and gives it to the patient over several injection sites. He plans to ask his colleagues about how the device is supposed to work later.

The GP surgery later receives a call to say the patient has collapsed and been rushed to hospital. Discussing his actions, Raj realises the strength of insulin in the cartridge was 100 units per ml and by administering 2.5ml he has actually given 250 units – 10 times the intended dose of the insulin. The patient’s blood glucose was recorded at its lowest as 1.5mmol/l, but quick treatment and the National Reporting and Learning System (NPSA, 2009) ensured her recovery.

Recognising a nearly never event
This is a “nearly never event”. The incident would be reported to the commissioner and the National Reporting and Learning System (NPSA, 2009).

Prevention
Raj worked on a diabetes ward years ago. He thought he understood diabetes but some of the practice has moved on. There is an e-learning module on diabetes on the NHS diabetes website (tinyurl.com/diabetes-e-learning), which he will do; in addition, his manager will send around information about the specific incident to other community nurses. In future, regular audits will be carried out to ensure that device and medication training is up to date in the community. Insulin should not be given using equipment not designed for its use.

Case study
Raj is a community nurse who is standing in for a sick colleague and has two extra patients to visit before lunchtime. The first patient, an older lady, has her regular insulin administered by the nursing service because of poor eyesight. Her front room is gloomy and an insulin pen device is lying on the table from the day before. Raj has not received any training on this system, but the lady needs a dose of 25 units, so he loads a cartridge and programmes it. When attempting to give the dose, it seems to jam; he tries again but it is not giving the insulin. He gets a syringe and needle, draws 2.5ml from the cartridge and gives it to the patient over several injection sites. He plans to ask his colleagues about how the device is supposed to work later.

In this case there was no severe harm to the patient, but there are still lessons to be learnt. Reporting and investigation should be taken seriously. NT

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5 key points
1 Staff should be aware that over- or underdosing insulin can lead to serious consequences for patients.
2 Harm can be caused from administering excessive insulin in error, causing hypoglycaemia through to administering too little or doses being missed, causing hyperglycaemia.
3 All healthcare organisations and community nursing services should ensure staff are aware of common errors, and know how to prevent them.
4 Nurses may need more training on how to use insulin pens correctly; if they are not sure about this they should be able to check before using them, even in the community. Insulin should not be given using equipment not designed for its use.
5 All patients receiving insulin should have clear documentation about what has or has not been given.

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References