

Update on diabetes care and therapy

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Case 1:

- 39 year old male, works as bricklayer
- Type 1 diabetes diagnosed 29 years ago
- BMI: 27 kg/m
- HbA1c: 8.5%
- Cholesterol: 6 mmol/L
- BP: 150/05 mmHg
- Smoker
- His job depends on being able to drive
- He was referred to an ophthalmologist the year before, but never attended. He is back in screening a year later and he is concerned about his left vision. On screening VA is 6/9 in the right and 6/24 in the left.
- Any other information you would like to know? He is asking your advice, what would you say/do?

Case 2:

- 32 year old female, housewife
- She has given up smoking recently as she wishes to have children
- She has had Type 1 diabetes for 17 years, she has poor control
- She has recently been discharged from the hospital as her eyes have been stable for over 5 years now after bilateral panretinal photocoagulation for proliferative diabetic retinopathy.
- Her BMI is 35 kg/m²
- HbA1c has always been above 10%, but recently dropped to 6.5% and she has hypos all the time
- She loves driving
- She has normal BP, but she has microalbuminuria
- Any other information you would like to know? He is asking your advice, what would you say/do?

Case 3

- 14 year old boy, still in school
- Had Type 1 diabetes for 6 years, HbA1c of 7.2%
- Lately he has missed school a fair bit because of too low or too high sugars
- He is tall and thin and does no exercise
- He has come to screening for the first time
- Any other information you would like to know?
He is terrified of the camera, what would you say/do?
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Case 4

- 51 year old taxi-driver
- Very overweight, would love to exercise more
- HbA1c of 15%, HBGM usually between 14-27 mmol/L
- BP: 122/84 mmHg
- Cholesterol has never been measured
- Diagnosed last year and was screened last year when he had 6/4 vision in both eyes, but referable maculopathy
- He has received laser treatment, but then DNAd all appts as he is afraid of loosing his license
- He must keep driving, he has 8 children, all under the age of 12!
- Any other information you would like to know? He is asking your advice, what would you say/do?

Case 5

- 53 year old secretary, newly diagnosed with Type 2 diabetes
- It is her first time in screening, VA right eye 6/12, left eye 6/60
- Images are ungradable
- She has given up smoking, but she is already very overweight and she is putting even more weight on
- She has not been started on any medication, but she shows you the blood test results and all have * next to them, she has high cholesterol, high blood sugar, poor kidney function, high HbA1c
- She is very argumentative with you and wants you to do something about her eyes
- Any other information you would like to know? He is asking your advice, what would you say/do?

New oral drug: Sitagliptin

- Approved only for Type II diabetes
- Mode of Action: help stimulate release of insulin from pancreas – known as the ‘incretin effect’
- Also known as oral DPP-IV inhibitors

Side Effects

- Metabolic side effects have included hypoglycemia.
- Gastrointestinal side effects have included abdominal pain, nausea, and diarrhea.
- Respiratory side effects have included nasopharyngitis and upper respiratory tract infection.
- Nervous system side effects have included headache.
- Hypersensitivity side effects have included anaphylaxis, angioedema, and exfoliative skin conditions including Stevens-Johnson syndrome.

BYETTA (Exenatide injection)

- Approved only for Type II diabetes
- SC Injection
- Mode of Action: enhances glucose-dependent insulin secretion, suppresses inappropriately elevated glucagon secretion, slows gastric emptying
- Indications: adjunctive therapy in those who have not achieved adequate glycaemic control whilst taking metformin, a sulfonylurea, a thiazolidinedione, a combination of metformin and a sulfonylurea, or a combination of metformin and thiazolidinedione
- Contraindications: if known hypersensitivity to exenatide or any of the product components

New insulins

- Continuous subcutaneous insulin infusion (CSII)
 - also known as ‘insulin pump’

CSII therapy

- Used in type 1 DM adults and children >12 years old
- Recommended when multiple daily injections (MDIs) cause disabling hypoglycaemia
- Disabling hypoglycaemia defined as repeated and unpredictable occurrence of hypoglycaemia resulting in persistent anxiety about recurrence and is associated with a significant adverse effect on quality of life
- Also recommended if HbA1c levels remain high on MDI therapy despite high level of care

Continuous subcutaneous insulin infusion (CSII): also known as 'insulin pump'

- Only recommended for children <12 years old if:
 - Other treatment considered to be impractical or inappropriate
 - Children on insulin pumps will be expected to undergo a trial of MDI therapy between 12 and 18 years of age

News on blood pressure treatment

- More and more evidence is available that treating HT even in the very elderly is beneficial
- There are a few screening programmes that measure BP as part of screening – but remember, you must be prepared to act on it!

News on cholesterol treatment

- Most patients are on cholesterol lowering drugs now
- There are few choices on the market now
- Few maculopathy trials are on the way to see if CSME and exudates respond to cholesterol lowering as well

Summary

- Principles have not changed: blood sugar levels, blood pressure and cholesterol treatment together with diet and exercise remain the most important issues in treatment
- Patients will ask questions, so try to be aware of new developments!