



## **GPRA ONLINE EXAM RESOURCES CLINICAL CASES**

CASE TYPE:

**Short Case – 8 minutes**

NAME:

**Alan Chew**

AUTHOR:



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Alan Chew, 69 years old

Review date:

**SECTION A: This information is given to the candidate**

**INSTRUCTIONS TO CANDIDATES**

**STANDARD INSTRUCTIONS:**

- This is an 8 minute station.
- Read the following scenario.

**ADDITIONAL INSTRUCTIONS**

- **Take an appropriate history from the patient.**
- **When you are ready, request the details of an appropriate physical examination from the observing examiner.**
- **Suggest appropriate investigations, and request results of these investigations from the observing examiner.**
- **Outline your conclusions and proposed immediate and long-term management plan to the patient.**
- **Discuss the essential issues that arise with the patient and suggest appropriate management.**
- **Outline your conclusions and proposed management plan to the patient.**

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## **SECTION A: This information is given to the candidate**

### **SCENARIO:**

Alan is a retired 69-year-old man with a 5-year history of type 2 diabetes. Alan is a patient of a colleague – a GP in your group practice who is currently on leave. At the time of initial diagnosis he was advised to lose at least 5 kg, however he has not succeeded in doing this. Alan has been prescribed atorvastatin, 20 mg OD for hypercholesterolaemia. He also takes irbesartan 150mg OD for his hypertension, which is currently controlled at 128/80 mmHg. And aspirin 100 mg OD. He commenced metformin therapy 12 months ago. He was initially prescribed 500 mg bd, but as his HbA1C remained at 8, this was recently increased to 1000 mg bd, which resulted in a decrease of HbA1C to 7.9%. He has suffered from intermittent diarrhoea, a common side-effect of metformin. He was then prescribed glimepiride at a dose of 1 mg every morning. Given that Alan's HbA1c is still above the target level, his glimepiride dose has been raised to 2 mg. He is also taking 100mg aspirin OD. Alan's neighbour has brought him to your clinic today. Alan is complaining of dizziness, nausea and headache.

A copy of the patient record summary sheet is attached.

## **FULL SUMMARY**

### **Patient Details**

Name: Alan Chew

Age 69

Allergies: Nil known

### **Social History**

Retired carpenter, Separated from his wife 10 years ago, living alone, no children.

Closest relatives live interstate

**Family History** Nil relevant

**Current Medications** atorvastatin 20 mg OD, irbesartan 150mg OD, metformin 1000 mg, aspirin 100 mg OD, BD, glimepiride 2 mg OD

**Immunisations** Flu vaccination 2 months ago

**Past Medical History** Diagnosed with type 2 diabetes 5 years ago. Hypertension, hypercholesterolaemia. Hernia operation 15 years ago.

## **SECTION B: This information is given to the patient role player/examiner**

### THE STORY IN DETAIL

You are a retired 69-year-old man, living alone since your separation from your wife 10 years ago. You have no children, and your closest relatives live interstate. You were diagnosed with type 2 diabetes five years ago. You are a non-smoker, and will have an occasional beer with friends, but no other alcohol. You take atorvastatin daily for hypercholesterolaemia. You also take irbesartan for your hypertension, and aspirin. At the time of initial diagnosis you were advised to lose at least 5 kg, but you have not succeeded in this. You commenced metformin therapy 12 months ago. You were initially prescribed 500 mg bd. This was recently increased to 1000 mg bd. Your HbA1c was initially 8% but since the increase in metformin dose it has come down to 7.9%. You have suffered from intermittent diarrhoea that appears to be related to taking metformin. You have been taking glimepiride 1 mg every morning, and have just started taking a higher dose. You asked a neighbour to bring you to the doctor today because you are feeling dizzy, with nausea and headache, and you just managed to stop yourself falling down your front steps. You have been told about various possible side effects of all your medications, and what to do if adverse events occur, but you did not pay much attention at the time, and can't remember much about the instructions.

### **Additional HISTORY**

#### **Information only to be given with appropriate enquiry from the candidate:**

The symptoms started about 3 hours after starting the higher dose of glimepiride, which you took with breakfast this morning. (black tea with sugar and toast with butter and vegemite). You have not eaten since. You have had no bumps or blows to the head, or any recent falls. You are conscientious about taking your medication, except you stopped taking the statin when your prescription ran out, and did not get it renewed because you thought you were taking too many tablets. You take very little exercise

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apart from occasional work in the garden. You do not like cooking, and tend to buy convenience food such as frozen pies and chips. You are not particularly concerned about your weight.

NOTES TO EXAMINERS

**Suggested cues/prompts if candidate requires assistance:**

The possibility of hypoglycaemia in an elderly patient taking a sulphonylurea should be considered and checked immediately

A copy of the patient record summary sheet is attached.

**FULL SUMMARY**

**Patient Details**

Name: Alan Chew

Age 69

Allergies: Nil known

**Social History**

Retired carpenter, separated from his wife 10 years ago, living alone, no children.

Closest relatives live interstate

**Family History** Nil relevant

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**Current Medications** atorvastatin 20 mg OD, irbesartin 150mg OD, aspirin 100 mg OD, metformin 1000 mg BD, glimepiride 2 mg OD

**Immunisations** Flu vaccination 2 months ago

**Past Medical History** Diagnosed with type 2 diabetes 5 years ago. Hypertension, hypercholesterolaemia. Hernia operation 15 years ago.

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**SECTION B: This information is given to the patient role player/examiner**

**PHYSICAL EXAMINATION**

1/These clinical findings are available on a separate sheet that is to be handed to candidates when they ask for any physical examination findings.

2/All other physical findings are normal.

<b>General Appearance/behaviour</b>	Restless and agitated, sweating profusely		
<b>Weight</b> 98 kg.	<b>Height</b> 1.75 m	<b>BMI</b> 32	<b>BP</b> 128/80 mm Hg

**INVESTIGATIONS**

**Candidate is to request specific tests**

**Surgery Tests**

Finger-prick test: blood glucose: 3.1 mmol/L

**Other investigations**

**Lipid profile**

LDL cholesterol: - 2.9 mmol/L

HDL cholesterol - 0.9 mmol/L

Triglycerides - 2.6 mmol/L

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**Other test results within the normal range**

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## **SECTION C: This information is given to the examiner/facilitator**

**Listed below are the key issues to be covered in this case. (The facilitator/examiner can “tick” these as covered during the consult)**

### **Specific action candidates should take**

- Candidates should consider the possibility of hypoglycaemia in an elderly patient taking glimepiride, and take a fingerprick glucose test in the surgery.

### **Diagnosis**

Hypoglycaemia

### **Appropriate management and explanation:**

- As the patient appears to have symptomatic hypoglycaemia, a sweet substance should be given immediately (e.g. 4 teaspoons of sugar in a glass of water, or 2 teaspoons of sugar in a glass of cordial, lemonade or orange juice, or 4 to 5 jellybeans. (RWH Clinical Practice Guidelines) If possible this should be followed by complex carbohydrate, e.g. a piece of fruit or a sandwich. (RWH Clinical Practice Guidelines)
- Blood glucose should be rechecked in 15-30 minutes (RWH Clinical Practice Guidelines)
- As the sulfonylurea is the likely cause of hypoglycaemia, alternative hypoglycaemic therapy should be initiated, taking into account:
  - the patient's lipid profile and cardiovascular risk factors
  - desirability of establishing glycaemic control,
  - avoiding the risk of repeat hypoglycaemia. This is particularly desirable as the patient lives alone.

A thiazolidinedione could be considered, as these do not pose the risk of hypoglycaemia. They also exert a beneficial effect on the lipid profile, with pioglitazone having a more beneficial effect than rosiglitazone (Cohen and Colman 2006, Goldberg

et al 2005) Alan meets the approved indication for authority prescription of pioglitazone as his blood glucose concentrations are inadequately controlled by metformin treatment and he is not able to tolerate the sulfonylurea. Pioglitazone can be used as dual therapy with metformin. Studies have shown that as adjunctive therapy to metformin, pioglitazone improves glycaemic control (Charbonnel et al 2005). Pioglitazone could be initiated at 15 mg daily, with the option of titrating up to a maximum dose of 45 mg daily.

The patient could also be told that metformin alone may be sufficient for glycaemic control if he loses weight and adheres to a suitable diet and exercise regime. This may be an additional incentive for him to lose weight.

The sulfonylurea should be withdrawn by titrating the dose down by 1 mg every two weeks.

Alan should be re-educated about the symptoms of hypoglycaemia and what to do if they occur. He should also be informed of the benefits of taking his medication (and also the possible adverse events associated with his medication). Alan's diet and exercise should also be discussed and suggestions made to improve his diet.

#### **Arrange appropriate follow up.**

- Alan should be monitored closely when the new hypoglycaemic therapy regimen is started
- As Alan lives alone, a social worker or similar health professional should assess his support network and perhaps consider installing an alarm system in the patient's home that he can use to alert friends or neighbours in case he suffers a severe hypoglycaemic episode.
- A health professional could be enlisted to help Alan improve his diet, with weight loss a priority
- ***Alan has stopped taking his statin. It is important to stress the need to control blood lipids and a statin should be restarted. Given the slightly low HDL it might be appropriate to prescribe Rosuvastatin as this has been***

***shown to increase HDL levels. The triglyceride level is slightly high and should be addressed in the first instance with dietary advice***

- ***Encouraging an increase in exercise might help to increase HDL***
- ***Changing to a sustained release form of metformin may help to reduce the GI side effects***

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This checklist below is a guide to Key Features used by Examiners to assist in clinical case ratings. The lists are not intended to be prescriptive or exhaustive and do not form part of the marking.

**On completion of the case, the candidate/examiner/group may wish to score themselves as part of a feedback process.**

Place a cross (X) along each line according to the candidate's performance on that item.

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**CLINICAL CASE RATINGS KEY FEATURES CHECKLIST**

(\*) key feature relevant to this case

Inadequately Covered 1 Covered Well 10

1	*	• Communication and Rapport	
2		• Inter-professional	
3	*	• <del>Communication Skills</del> History taking	
4		• Physical examination	
5		• History and Physical	
6		• <del>Examination</del> Physical Examination	
7		• <del>Technique</del> Physical Examination	
8		• <del>Findings</del> *Investigations	
9		• *Diagnosis	
10		• Problem Definition	
11		• *Medical Knowledge	
12		• Public Health Issues	
13	*	• *Management	
14		• Procedural Skills	
15		• Ethical and Medico Legal	
16		• <del>Issues</del> Critical Appraisal Skills	

17

•


18

• Prompting Required

Frequently

Not

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*Key Features Clinical Case Rating Descriptions*

1. Communication and Rapport

**Rate the candidate on their ability to establish rapport and to communicate effectively with the patient in a pleasant, clear and logical manner using appropriate communication skills and language.**

**3. History taking**

**Rate the candidate on their ability to take a relevant and organised history; following appropriate cues and eliciting both positive and negative details important to the assessment and management of the patient.**

**8. Investigations**

Rate the candidate on their ability to select relevant, cost-effective investigations in an appropriate sequence, displaying consideration for the safety and comfort of the patient.

**9. Diagnosis**

Rate the candidate's ability to make an accurate diagnosis based on interpretation of the history, physical examination and investigations.

### **13. Management**

Rate the candidate on their ability to manage the issues raised in this case, both now and in the future. Candidates should offer effective explanations, education and choices to patients, and involve the patient, family and relevant community resources in their immediate and on going management plans. Candidates should demonstrate responsibility for the immediate and ongoing management of the patient.

### **18. Prompting**

***To what extent was prompting/probing necessary to assist the candidate?***

***The 6 categories are: Almost continuously (cross on far left), very frequently, frequently, occasionally, minimally, not at all (cross on far right).***

*References and Study Notes:*

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