Management of Chronic Kidney Disease Stages 1-3

Pre course work and reading

The aims of the pre course work are as follows:

- To provide information to maximise learning on the day.
- To provide written information for future reference, including references and websites.
- To ensure similar knowledge base amongst students on the course.

To maximise your learning on the course, please undertake the following pre-coursework:

1. Familiarise yourself with the following guidelines:

   http://guidance.nice.org.uk/CG73/QuickRefGuide/pdf/English

   www.renal.org/guidelines

2. Answer the following questions, making reference to a basic renal textbook, the above guidelines, and the Renal Association guidance on stages of CKD:

   http://www.renal.org/whatwedo/InformationResources/CKDeGUIDE/CKDstages.aspx

   List the main functions of the kidneys
   List the main causes of CKD
   Name and briefly describe the system for identification and classification of CKD
   Define RAAS
   State the targets for blood pressure control in CKD
   Identify the 2 main classes of anti-hypertensive agents used for blood pressure control in CKD
   Identify 3 nutritional aims for people with CKD

3. Please read and prepare notes on the two case studies, found below, in preparation for group discussion on the course.

Additional reading / tasks (optional)

1. The Information Centre for Health and Social Care: Health Survey for England (HSE), 2009 (sections relating to adults only)  

2. Self directing online learning resource
http://www.ckdonline.org
Case Study 1

Please read and prepare notes on the case study in preparation for group discussion on the course.

History of Presenting Case (HPC)
A 66 yr old Caucasian male, Mr G, presented at the GP surgery complaining of a persistent severe headache (he is known for poor medication adherence). He states he is less active than usual. Smoker: 20 cigarettes a day

Social History: Retired postman, lives alone, independent – usually moderately active

Clinical data:
BP 200/95mmHg,
Urinalysis: PCR 50mg/mmol

Past Medical History (PMH): Hypertension, Osteoarthritis, Myocardial infarction

Medications: Ramipril, Ibruprofen, Losartan, Aspirin

Blood Biochemistry

<table>
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<tr>
<th>Date</th>
<th>Na</th>
<th>K</th>
<th>Urea</th>
<th>Creat</th>
<th>Albumin</th>
<th>Bicarb</th>
<th>Corr Ca</th>
<th>Phos</th>
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<td>5.8</td>
<td>12</td>
<td>199</td>
<td>30</td>
<td>21</td>
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<tr>
<td>Sept 13</td>
<td>137</td>
<td>6.0</td>
<td>13.5</td>
<td>245</td>
<td>27</td>
<td>20</td>
<td>2.21</td>
<td>1.57</td>
<td>10.1</td>
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</tbody>
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Nutritional Data

Weight: 70kg: (March ‘13) Weight: 58kg (Sept ‘13) Height: 1.70m

Diet History: Home (March ‘13)

Breakfast  Branflakes + semi skimmed milk (SSM) + 3 teaspoons (tsp) sugar
3 tinned prunes
1 glass of orange juice
1 Cup of coffee + milk + 2tsp sugar

Mid-morning:  milky coffee + 2 tsp sugar
Chocolate fudge bar

Lunch: Chees + pickle sandwich made with 2 slices white bread + butter
Egg custard tart + glass of milk

Mid-afternoon: Hot chocolate made with milk + 3 tsp sugar

Evening meal: 10 oz steak + grilled tomatoes + mushrooms
1 Cup of milky coffee + 2tsp sugar

Supper: Cup of warm milk + 1 tsp honey
Alcohol occasionally: e.g. glass of red wine with a meal if eating out (1-2x/wk)
1/2pt glass of beer (1-2x/wk)
Diet History: Home (Sept ‘13)
Breakfast: Cornflakes + semi skimmed milk + 3 tsp sugar
Mid-morning: Cup of milky coffee + 2tsp sugar
Lunch: Bowl of tinned vegetable soup
Mid-afternoon: Cup of milky coffee + 2tsp sugar
Evening Meal: 1 bowl of tomato soup + 2 slices bread + butter
Bowl of rice pudding
Glass of milk
Supper: 1 cracker + thin slice cheese
Glass of milk

Questions (Medical lecture)

1. What are the actions of the drugs Mr G is currently taking?
   a. What are the indications for using each drug?
   b. What are the potential CKD relevant problems associated with each drug listed?

2. Comment on Mr G’s blood pressure. What are the BP treatment aims?
Questions (Dietetic Lecture Session 2)

1. Calculate % weight loss and body mass indices for both Mar 13 & Sept 13.

2. Calculate Mr G’s current nutritional requirements (calories, protein only).

3. Review the biochemistry and identify any values outside the normal range.

4. Comment on the diet histories: March ’13 vs Sept ‘13
   a. Give an estimate for Mr G’s calorie / protein intake for March’13
   b. Give an estimate of Mr G’s calorie / protein intake for Sept ’13
5. State the aims of your dietary treatment and dietary advice you would give based on March ’13 information.

6. What diet advice and interventions would you give to Mr G based on Sept’13 information?
Case Study 2

Please read and prepare notes on the case study in preparation for group discussion on the course.

A 45 yr old Asian woman, Mrs P is a new patient to the GP surgery.

Clinical data at presentation:

PMHx: Type 2 Diabetes Mellitus, Arthritis, Asthma, hypertension

Meds: Paracetamol, Salbutamol, Insulin: Lantus 30 units od, Novorapid 16 units tds, Ramipril 10mg OD

Blood Biochemistry:

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<tr>
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Sept 2013: HbA1c 10.3%, Chol 5.4, TG 2.1,
Urinalysis: ACR: 50mg/mmol  Haematuria: Negative

Weight: 108kg  Height: 1.64m

Diet History:

Breakfast: Rice krispies / Cornflakes / crunchy nuts + full fat milk (FFM) or 2 toast + fried egg x2
Orange / Apple juice Cup of tea – FFM + sweetener

Mid Morning: Cereal bar or 2 x digestives or chocolate biscuits Orange / Apple juice

Lunch: Large portion of meat curry + 2 x chapatti or large spoon of rice Fruit, e.g. banana / orange / mango or low fat yogurt Orange / Apple juice

Mid Afternoon: Tea + FFM + sweetener Sweet rusk or biscuits, or Asian savouries (Bombay Mix, nuts, pakoras)

Evening Meal: Large portion of fish curry + 2 x chapatti or large spoon of rice COT+ FFM + sweetener

Supper: Crisps or cereal + FFM Cup of coffee + FFM + sweeteners

Take-away: 2 x wk - Kebab, Pizza, Fish and Chips

Alcohol: nil
Questions

1. Write down the use and potential side-effects of each of the medications. Are there any contradictions or potential problems?

2. Review the biochemistry and identify any values outside normal range.

3. Calculate the BMI.

4. Comment on the diet history.
5. What additional information would you like to know?

6. What dietary advice would you give to Mrs P in September 2013?

7. How would this dietary advice differ assuming the same dietary history in Nov 2013?

8. What non-diet interventions would you consider?