Sample Clinical Case 1: Mrs P. Mona

Part 1:

DOB: 15/05/1972       Gender: Female       NHS Number: 123 456 789
Occupation: Office staff at university       Height: 168cm       Weight: 95.4 kg

Presentation:

Mrs Mona has come into the GP today complaining of a hacking cough which has lasted for two weeks and is getting worse. It is particularly bad at night, requiring her to sleep propped upright and sometimes wakes her up. She is bringing up yellowish/green mucus when she coughs. Sometimes the mucus is a rusty brown colour. She estimates that she produces at least two tablespoons of mucus per day, maybe more; she is unsure.

She feels generally unwell and is complaining that her chest hurts when she breathes – specifically on her right side when she takes a deep breath in. She says the pain causes her to catch her breath and is forcing her to breathe shallowly. If she doesn’t take a deep breath it doesn’t hurt although there is a constant soreness there. The pain is worse when she coughs.

She coughs up sputum and can produce a sample for you:

![Figure 1: Mrs. P Mona Sputum Sample](image)

Mrs Mona thinks she has the flu. She is concerned that she doesn’t seem to be getting better and doesn’t want to go into hospital as there will be no one to look after the kids when then get home from school today. She hopes to get some antibiotics which she thinks will make her feel better.

Sample Discussion points for Part 1:

1. Based upon the patient information so far what are the differential diagnoses and why?
2. What is the most likely diagnosis and why?
3. What examinations should be performed on this patient and why?
4. What findings would you expect and why?

Suggestions for facilitator - Focus on communication skills:

Ask students to role play the initial part of the consultation. Focus on asking the right questions to elicited as much information as possible from the patient without taking their history.

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Part 2:

**Past medical History:**

**Smoking:** Non-smoker  
**Drugs:** No recreational drug use  
**Allergies:** No known drug allergies  
**Alcohol:** 5-7 units per week – Has a single glass of red wine with dinner most evenings.

**Existing Medical Condition:** No other medical conditions (ex. Asthma, COPD, DVT/PE, TB, etc.)

**Family History:** Lives with husband and two children (ages 6 and 8). Has two cats. Both parents alive and well and currently enjoying retirement in Italy.

**Travel:** Went to Italy for two weeks in May.

**Exercise:** Walks to work and back (usually a 15 minute walk) every day. Does not go to the gym.

**Diet:** She think’s it’s fine but acknowledges that she rarely gets her 5 a day.

**Systematic inquiry:** Nothing else of note apart from her respiratory symptoms.

**Examination:**

**Appearance:** Mrs Mona appears unwell, she is flushed and there is some sweat on her forehead. She has bags under her eyes and looks tired. She is breathing shallowly and shivering despite wearing a warm coat during the consultation. The room you are in is warm (21° C).

**Observations:**

- HR: 89  
- RR:20  
- SPO2: 95%  
- BP: 130/88  
- Temp: 39.8° C

No peripheral or central cyanosis, no clubbing, no CO₂ retention flap, no tar staining, no ↑JVP, no pursed lip breathing, no ptosis, pupils equal and reactive.

**Respiratory System Examination:**

**Inspection:**

No Deformity, no scars. Breathing is shallow but symmetrical.

**Palpation:**

Trachea is central, No displacement of the cardiac apex, lung expansion is even, no lymphadenopathy.

**Percussion:**

Dullness on the lung base on the right side.

**Auscultation:**

Bronchial Breathing noted. Crackles in the right lung base. ↑Vocal resonance at the right lung base.

**Sample Discussion points for Part 2:**

1. Based upon the patient information so far what are the differential diagnoses and why?  
2. What is the most likely diagnosis and why?
3. What investigations should be performed on this patient and why?
   a. What findings would you expect for each and why?

Suggestions for facilitator - Focus on clinical skills, History taking and focused Respiratory examination:

Ask students to role play taking the history from Mrs. Mona. Ask students to practice preforming a Respiratory examination interjecting the findings as needed.

Part 3:

------------- Microbiology -------------

Specimen: Sputum Sample Received: 14 Sept. 2019
Provider: Elsevier GP Collection Date: 13 Sept. 2019

Description: Mucopurulent sputum

Culture Results:

1. Moderate Streptococcus pneumoniae

Comment: Amoxicillin – S
          Clarithromycin – S

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Clinical Reasoning Pre-Diagnosis:

1. Based upon all the information so far, what is the most likely diagnosis and why?

Diagnosis:

Mrs P. Mona has a community acquired pneumonia.

Clinical Reasoning Post-Diagnosis:

1. What are the immediate, medium, and long-term issues/problems that need to be addressed in this patient and why?
2. How would you manage this patient?

Additional Resources to share post case:

- British Thoracic Society 2009 Guidelines
- NICE CG191
Notes:

Case Learning areas:

- Causative organisms for community acquired pneumonia
  - Investigations: Microbiology
- Pharmacological treatment for gram positive organisms
- Clinical Skills:
  - Communication skills – building rapport with the patient, asking the right questions, & history taking
  - Clinical Examination skills
- Understanding of mortality risk (CRB65/CURB65)

Use CRB65 score to guide mortality risk:

- Score 3-4 - urgent hospital admission
- Score 1-2 - intermediate risk, consider hospital admission
- Score 0 - low risk, consider home based care

Treatment:

If CRB65 = 0, Use one of the following for 5 days, review at 3 days, if poor response can extend to 7-10 days.

- Amoxicillin – 500 mg TDS
- Clarithromycin – 500mg BD
- Doxycycline – 200mg stat/100mg OD

If CRB65 = 1 or 2 and the patient is at home, clinically assess the need for dual therapy for atypicals.

Additional reading:

Davidson’s Principles and Practices of Medicine – Community Acquired Pneumonia:
https://www.clinicalkey.com/student/content/book/3-s2.0-B9780702070280000172#hl0007267

Kumar & Clark’s Clinical Medicine – Community Acquired Pneumonia:
https://www.clinicalkey.com/student/content/book/3-s2.0-B978070206601600024X#hl0007358

Practical General Practice – Lower Respiratory Tract Infections:
https://www.clinicalkey.com/student/content/book/3-s2.0-B9780702055522000087#hl0001019