Waiting for a diagnosis

Shirley Rigby
ESIM Sardinia 2015
9.6.15
Shirley Rigby

Consultant General Internal Medicine

Warwick Hospital
Warwick Medical School

Shirley.rigby@swft.nhs.uk
Mortality & Morbidity 1
Introduction

Internal medicine case
Brief introduction to the case
Work through it with your group
Final discussion
History

Admitted Internal Medicine
Unwell for 2 months
Intermittent fevers
Weight loss of 17kg over 8 weeks
Buttock/back pain-diffuse
Mr B: Further history

Past Medical History:
COPD
Investigated for pulmonary TB in 2008-negative
Recent episode of testicular pain-epididymo-orchitis

Drug History: Salbutamol inhaler, no allergies

Social History: White, born UK, lives in a town, with wife
No recent travel outside UK
Ex-smoker, 30/day for 30 years
Alcohol <10u per week
On examination

White male
Cachectic 46 kg, BMI 17 kg/m² (>18.5)
Fluctuating pyrexia T 38.5 C
Cardiovascular/Respiratory/Abdominal/
neurological systems all normal
No lymphadenopathy
Joints/spine normal
# Initial Investigations

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hb</td>
<td>106 g/L</td>
<td>(130-170)</td>
</tr>
<tr>
<td>MCV</td>
<td>80 fl</td>
<td>(80-100)</td>
</tr>
<tr>
<td>wbc</td>
<td>29 x 10⁹/L</td>
<td>(4-11)</td>
</tr>
<tr>
<td>Neut</td>
<td>26.8 x 10⁹/L</td>
<td>(2-7)</td>
</tr>
<tr>
<td>Plt</td>
<td>912 x 10⁹/L</td>
<td>(140-400)</td>
</tr>
<tr>
<td>CRP</td>
<td>260 mg/L</td>
<td>(&lt;11)</td>
</tr>
<tr>
<td>PV</td>
<td>2.22 mPa.s</td>
<td>(1.5-1.72)</td>
</tr>
</tbody>
</table>
## Initial Investigations

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium</td>
<td>133 mmol/L</td>
<td>(133-146)</td>
</tr>
<tr>
<td>Potassium</td>
<td>4.3 mmol/L</td>
<td>(3.5-5.5)</td>
</tr>
<tr>
<td>Creatinine</td>
<td>54 umol/L</td>
<td>(65-105)</td>
</tr>
<tr>
<td>Albumin</td>
<td>23 g/L</td>
<td>(35-50)</td>
</tr>
<tr>
<td>Bilirubin</td>
<td>7 umol/L</td>
<td>(4-25)</td>
</tr>
<tr>
<td>Alk Phos</td>
<td>167 U/L</td>
<td>(40-130)</td>
</tr>
<tr>
<td>ALT</td>
<td>40 U/L</td>
<td>(10-50)</td>
</tr>
<tr>
<td>Calcium</td>
<td>2.37 mmol/L</td>
<td>(2.2-2.6)</td>
</tr>
</tbody>
</table>
X ray
Lumbar spine
Group work

Imagine you are the resident looking after this patient

1. What is the differential diagnosis?
2. What further investigations would you arrange?
3. What treatment would you start?
Silo Mentality

Each person sits inside their own silo
Failure to problem solve across broad boundaries
Patient Harm

1. Multiple unnecessary treatments and investigations
2. Iatrogenic infection-C. Difficile
3. Psychological- patient still has bad dreams, doesn’t want to go back into hospital again
Systems/Organisational errors

6 weeks of cost of hospital in-patient care
Cost of all investigations

Unnecessary ward moves

This case argues for all patients to be under a supervising physician practising internal medicine
Diagnostic errors—clinical problem solving

‘The most important predictor of successful problem solving is the quality of the hypotheses that are generated early in the process. Once generated, a correct diagnosis is hardly ever rejected, but the case will not be solved if this process fails’

Avoiding diagnostic errors

Pattern recognition vs analytical reasoning

Pattern recognition- take a shortcut, easy, you’ve seen it before, you know what it is

If you are faced with a situation where you don’t know what is going on-slow down, avoid short cuts, switch to analytical reasoning
Analytical reasoning

‘Thinking slow’
Use frameworks to explore all avenues
Discuss the case with colleagues/grand rounds
A framework to prompt analytical problem solving

Rigby et al, Student BMJ 2008
A framework to prompt analytical problem solving

V  Vascular
I  Infection-bacterial, viral, other
T  Trauma/injury
A  Autoimmune/inflammatory
M  Metabolic/endocrine
I  Iatrogenic/Medicines
N  Neoplasia-benign, malignant

•  Rigby et al, Student BMJ 2008