Mr Coombes was 68, a keen allotment gardener. He came to see me several times with low back pain and a lack of enthusiasm for digging the potatoes! Initially it seemed like a musculoskeletal problem but closer examination revealed tenderness over L5 - he wasn’t one to complain and this raised alarm bells! Blood tests showed an ESR 94, CRP 10, Hb 11.1 and eGFR 46 (no previous results to compare) – I wondered about his prostate but PSA was normal and his calcium came back raised – protein electrophoresis confirmed a single IgG band - he was subsequently diagnosed with multiple myeloma.

**Myeloma statistics**
- Myeloma affects 4700 adults per year in the UK.
- Myeloma patients experience the longest diagnostic delay of any type of cancer.
- 56% of patients experience a 6m delay in diagnosis and 33% a 12m delay.
- The incidence increases with age, 71% of cases occurring in those aged 65 or older.
- 5y survival is 37%.
- The UK had 703 ‘avoidable’ myeloma deaths between 1995 and 1999 when compared with European average survival.

Myeloma is a cancer of plasma cells, white blood cells that produce immunoglobulins. When large numbers of abnormal plasma cells are produced, they overtake the bone marrow and can affect the production of all other cell lines so potentially result in anaemia, leucopenia and thrombocytopenia.

The abnormal plasma cells may produce large amounts of abnormal immunoglobulin which is functionally impaired and also inhibits production of normal immunoglobulin – therefore the risk of infection may also be increased. This abnormal immunoglobulin is known as paraprotein.

**Presentation**

Historically, the studies suggested the presenting symptoms and signs of myeloma originate in secondary care. However, a recent BJGP case–control study used the GPRD to identify and quantify the risk of myeloma from specific clinical features as reported in primary care (BJGP 2015;65:e101). They calculated positive predictive values for 16 features that were independently associated with myeloma in patients aged >60y.

- Patients with myeloma attended GP more often than controls prior to diagnosis.
- No single symptom or test result had a PPV for myeloma >1.0.
- Combinations of symptoms alone were not highly predictive.
- Case numbers with combinations of symptoms and abnormal test results were too small to calculate meaningful PPVs in many cases.
- Combinations of symptoms with abnormal test results were most helpful – so we need to think about it and do the test:

<table>
<thead>
<tr>
<th>Combined symptoms and test results</th>
<th>PPV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hypercalcemia and</strong></td>
<td></td>
</tr>
<tr>
<td>Back pain (2nd episode)</td>
<td>&gt;10</td>
</tr>
<tr>
<td>Fracture</td>
<td>&gt;10</td>
</tr>
<tr>
<td>Joint pain</td>
<td>&gt;10</td>
</tr>
<tr>
<td>Rib pain</td>
<td>&gt;10</td>
</tr>
<tr>
<td>Back pain (1st episode)</td>
<td>4.0</td>
</tr>
<tr>
<td>Chest infection</td>
<td>2.0</td>
</tr>
</tbody>
</table>
Chest pain | 1.9
SOB | 1.5
Combined bone pain | 1.4

**Leucopenia and**
- Nosebleeds | >10
- Fractures | >10
- Combined bone pain | >5
- Back pain (2nd episode) | 2.0

**Raised inflammatory markers and**
- Back pain (2nd episode) | 1.1

The bottom line is that individual symptoms of myeloma in primary care are generally low risk and that is probably why there is diagnostic delay. However, having a high degree of suspicion and taking the appropriate blood tests increases the probability of making the diagnosis.

The authors suggest that we investigate any patient aged >60y presenting with bone pain, weight loss or nosebleeds by taking a FBC and ESR. Back pain should be investigated on second presentation. This approach is supported in the new NICE referral guidelines.

**Which tests to order?**

If you have a suspicion of myeloma, request the following blood tests (BMJ 2012;344:d7953):
- FBC (look for anaemia, leucopenia).
- Inflammatory markers (raised ESR is common, CRP usually normal).
- Calcium (often raised).
- Serum protein electrophoresis (looking for presence of monoclonal proteins) – note that NICE recommend this as a second line test if Ca/WCC or ESR are abnormal.
- U&E/LFT (looking for end organ damage).

If monoclonal proteins are present refer to haematology under 2ww – they will then do bone marrow biopsy, skeletal survey and 24h urine collection before formulating a treatment plan. They are looking for evidence of end organ damage – hypercalcemia from bone destruction, renal impairment, anaemia and lytic lesions in bone.

**Referral**

NICE (2015, NG12) issue the following guidance:

**Suspected myeloma referral guidelines**

Offer FBC, serum calcium and plasma viscosity or ESR to assess for myeloma in people aged ≥60y with persistent bone pain, particularly back pain or unexplained fracture. *N.B. CRP is often normal.*

Offer protein electrophoresis and Bence Jones protein urine test within 48h to assess for myeloma in:
- People aged ≥60y with hypercalcaemia or leucopenia and presentation consistent with possible myeloma.
- People with raised plasma viscosity or ESR and presentation consistent with possible myeloma.

Refer using cancer pathway if protein electrophoresis suggests myeloma.

**Management**

This is a secondary care issue – simplistically, patients are divided into those who are eligible for autologous stem cell transplantation and those who are not. Different chemotherapy
Regimens are then the mainstay of treatment, either in preparation for stem cell transplant (with the aim of cure) or to achieve a clinical remission where there is no evidence of end organ damage and no detectable paraprotein.

However, there are a group of patients with ‘smouldering myeloma’ (presence of significant paraprotein but no evidence of end organ damage) who may be offered active monitoring – we may be involved in this in primary care.

All patients with myeloma are offered bisphosphonates to reduce the risk of pathological fractures and skeletal damage.

**Monoclonal gammopathy of undetermined significance (MGUS)**

Increasing numbers of patients are being picked up whilst asymptomatic (perhaps through blood tests for other conditions). If their bone marrow biopsy has less than 10% plasma cells or if their monoclonal proteinuria is less than 30g/L they are given a diagnosis of MGUS.

An estimated 3% of those >50y may have MGUS condition with an estimated 1% progressing to multiple myeloma or other lymphoproliferative disease each year.

Active surveillance by blood test is the current recommended management of MGUS.

---

<table>
<thead>
<tr>
<th><strong>Multiple myeloma</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Rare and commonly missed.</td>
</tr>
<tr>
<td>• Bone pain, fatigue, breathlessness and weight loss are typical symptoms but presentation is variable and no individual or grouped symptoms have strong PPVs.</td>
</tr>
<tr>
<td>• Blood tests characteristically will identify the condition particularly FBC, ESR, calcium and serum protein electrophoresis.</td>
</tr>
<tr>
<td>• Based on primary care data, offer patients aged &gt;60y presenting with bone pain, nose bleeds, weight loss or second visit with back pain a FBC and ESR.</td>
</tr>
<tr>
<td>• Look for leucopenia and hypercalemia and follow these up!</td>
</tr>
<tr>
<td>• MGUS is increasingly being identified – it has a 1% per annum conversion to myeloma.</td>
</tr>
</tbody>
</table>

---

**www.myeloma.org.uk** is a charity (partially funded by pharma) that will be offering an online educational resource for GPs

---

*We make every effort to ensure the information in these pages is accurate and correct at the date of publication, but it is of necessity of a brief and general nature, and this should not replace your own good clinical judgement, or be regarded as a substitute for taking professional advice in appropriate circumstances. In particular check drug doses, side effects and interactions with the British National Formulary. Save insofar as any such liability cannot be excluded at law, we do not accept any liability for loss of any type caused by reliance on the information in these pages.*

---

**GP Update Limited**
ALL OUR COURSES
and dates for 2015

Our one-day courses are
designed by GPs for GPs,
GP STs, Practice Nurses and
Nurse Practitioners

We’re real life GPs who are really positive about
primary care and we do all the legwork to bring
you up to speed on the latest issues.

Relevant
Our courses are designed to be immediately
relevant to clinical practice.

Challenging
Comprehensive, practical and unbiased.
Completely free of any sponsorship.

& Fun!
We make it all entertaining too – without
compromising the content!

Important note: These courses contain no theorists,
no gurus and no pharmaceutical company sponsors.

The GP Update Course – our flagship course!
As primary care practitioners we want to stay up to date across
the board, and with all the evidence inundating us it can be hard
to know which bits of evidence should change our practice,
and how. Using a lecture based format, with plenty of time for
interaction, the GP presenters discuss the results of the most
important new evidence and guidance, and concentrate on what
it means to you and your patients in the consulting room tomorrow.

The Women's Health Course
From the pill to pelvic pain, periods and prolapses, this one day
women’s health update is a comprehensive guide to understanding
and managing common gynaecological problems in general practice.

The Cancer Update Course
This course covers the latest evidence and guidelines around
cancer prevention, screening, diagnosis, treatment and palliative
care, as well as simple ideas which we as GPs have found helpful
in our consultations.

The Effective Shared Decision Making Course
Sharing Decisions with patients makes sense in a lot of cases and
is an expected professional requirement. However, it is not without
difficulties; some decisions are clear cut but many are not. On this
course we practise skills which will help us in such situations.

The Effective Consultation Course
This course focuses on consultation behaviours which enhance
effective use of time in the consultation. Efficient consultations
reduce clinical risk, improve patient care and lower the risk of
complaints and lawsuits.

The Medically Unexplained Symptoms Course
"Are you saying it's all in my head doctor?" We all know that there
is no magic solution which we can use with these patients and
sometimes they leave us feeling defeated and not sure what to
do. However, there is evidence which can help!

The Telephone Consultation Course
With the increased importance of telephone consultations,
triage and follow-up, this course focuses on fashioning practical
skills which can be put to use immediately.

The Patient Behaviour Change Course
Helping patients to make behaviour changes is difficult. Course
participants explore challenges, compare notes and learn some
theory to make these consultations less frustrating for all parties!

FREE with all courses: Delegates on every course now receive a year’s subscription to
www.gpcpd.com, home of The GP Update Handbook Online. Access runs from the course
date (or the expiry date for current users).

Designed by GPs, you can easily capture CPD credits as you read on the site and use it in
consultations! It also comes with pre-prepared focussed learning activities to double credits…
at the end of the year you simply upload everything ready for your appraiser!

www.gp-update.co.uk
Who are these courses designed for?
Established GPs and Trainers wanting to keep up to date across the whole field of general practice.
GP ST1, 2 & 3 for whom the courses will provide the perfect launch pad into general practice. Fantastic for AKT and CSA revision.
GPs returning from maternity leave or a career break who want to be brought up to speed.
Practice Nurses & Nurse Practitioners, especially those whose work involves seeing patients with chronic diseases.

Prices:
GP Update Course:
GP £195 | GP Registrar £150 | Nurse £150
All other courses:
£225 or £210 for members of www.gpcpd.com
(GPCPD members, please log in and then click on the relevant button within the ‘Member information’ box on the right of the home screen to get your discount code)

The GP Update Course – our flagship course!
- Oxford: Fri 25 Sep
- Southampton: Sat 26 Sep
- Leeds: Weds 30 Sep
- Liverpool: Thurs 1 Oct
- Manchester: Fri 2 Oct
- Birmingham: Sat 3 Oct
- Exeter: Weds 7 Oct
- Cardiff: Thurs 8 Oct
- London: Fri 9 Oct
- London: Sat 10 Oct
- Nottingham: Tues 13 Oct
- Cambridge: Weds 14 Oct
- London: Thurs 15 Oct
- Inverness: Weds 4 Nov
- Edinburgh: Thurs 5 Nov
- Glasgow: Fri 6 Nov

The Women’s Health Course
- Nottingham: Thurs 5 Nov
- Leeds: Fri 6 Nov
- Bristol: Thurs 12 Nov
- London: Fri 13 Nov

The Cancer Update Course
- Birmingham: Thurs 17 Sep
- Glasgow: Fri 18 Sep
- Manchester: Thurs 12 Nov
- London: Fri 13 Nov

The Effective Shared Decision Making Course
NEW FOR 2015
- London: Fri 16 Oct
- Manchester: Sat 21 Nov

The Effective Consultation Course
- Birmingham: Fri 2 Oct
- Manchester: Sat 3 Oct
- London: Sat 10 Oct

The Medically Unexplained Symptoms Course
- Oxford: Thurs 24 Sep
- Manchester: Fri 2 Oct
- London: Fri 9 Oct
- Glasgow: Sat 7 Nov

The Telephone Consultation Course
- Bristol: Fri 9 Oct
- London: Weds 14 Oct
- Edinburgh: Fri 6 Nov
- Manchester: Fri 20 Nov

The Patient Behaviour Change Course
- London: Sat 28 Nov

To book: Online at www.gp-update.co.uk or use the form below or call us on 0118 960 7077

I would like to come on the following course(s) (please write legibly):

- The GP Update Course
- The Women’s Health Course
- The Cancer Update Course
- The Effective Shared Decision Making Course
- The Effective Consultation Course
- The Medically Unexplained Symptoms Course
- The Telephone Consultation Course
- The Patient Behaviour Change Course

Name...............................................................................   Address...................................................................................................

(Please write your email address clearly as we’ll use it to send your confirmation letter and receipt.)

Price as stated above for each course. If applicable, please provide your discount code here.

Please send this form with your cheque payable to GP Update Limited to:
GP Update, The Science and Technology Centre, Earley Gate, Whiteknights Road, Reading RG6 6BZ

GP Update Limited, registered in England and Wales No. 7135974.
Registered Office: Prospect House, 58 Queens Road, Reading RG1 4RP
Full terms and conditions are available at www.gp-update.co.uk

P/2015