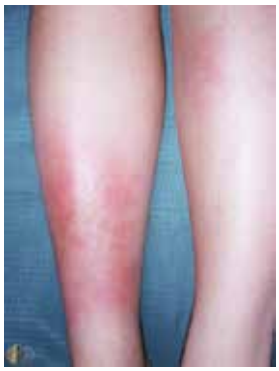
Curiositas (General Practice)

UNDERGRADUATE QUIZ

A 50 year woman presented to her GP with a 2 week history of a dry, intermittent, non-productive cough. She reported puffiness around her ankles and wrists. One week later she returned complaining of 'sweats' and arthralgia. A rash was present on her lower legs. Bloods were normal apart from an ESR of 24 mm/h.



Re-produced from DermNetNZ.org (http://creativecommons.org/licenses/by-nc-nd/3.0/nz/), no changes made

1. What is the rash?
2. What is the most likely diagnosis?
3. As the patient's GP, what radiological investigation would you request and what would you expect to see?

Dr Kieran McGlade (General Practitioner) and Dr Rachel Martin (GPST3 Research Registrar), Dunluce Health Centre.

HISTORICAL QUIZ

Can you name these two individuals and their significance to general practice in Northern Ireland?

Image 1

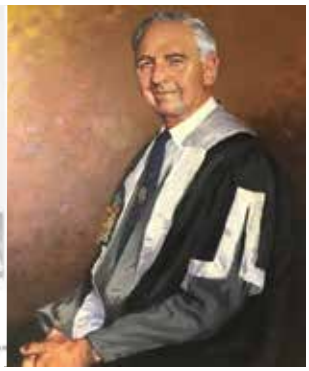


Image 2

Dr Nigel Hart and Dr Jenny Johnston (Senior Lecturers (Education), Centre for Medical Education, Queen' University Belfast). Images produced with the permission of the Department of General Practice, QUB.

CONTINUING MEDICAL EDUCATION QUIZ

A 69 year old non-smoking male attended the surgery giving a one week history of a cough productive of green sputum. He was diagnosed with community acquired pneumonia, issued an antibiotic, and advised to return if he was not improving in four weeks. Four weeks later, he had ongoing sputum production. A full blood picture revealed the following:

Complete Blood Count

Patient ID	Patient Name
Sex	Date Of Birth
Collected	Reported
Requested by	Requested from
Order Number	Status
Relevant Information	

Additional Information

Results:

Test Name	Result	Units	Ref. Range	Abnormality
HGB	145	g/L	130-180	Normal
HCT	0.436	l/l	0.40-0.54	Normal
WBC	9.4	10^9/l	4.0-10.0	Normal
PLT	*582	10^9/l	150-450	Above high normal
RBC	4.51	10^12/l	4.5-6.5	Normal
MCV	96.7	fl	76-100	Normal
MCHC	333	g/L	320-360	Normal
MCH	*32.2	pg	27-32	Above high normal
LYMPH	1.7	10^9/l	1.0-3.50	Normal
NEUT	6.9	10^9/l	2.0-7.5	Normal
BASO	*0.0	10^9/l	0.01-0.1	Below low normal
EOSIN	0.3	10^9/l	0.04-0.4	Normal
MONO	0.5	10^9/l	0.2-0.8	Normal

* Denotes Abnormal Result, ** Please check for comments where superscript characters exist

1. What is the most significant abnormality?
2. What can this abnormality commonly be due to?
3. What examination(s) would you consider:
   a. In this male patient?
   b. If the patient were female?
4. How would you proceed now?

Dr Carl Brennan (GPST3 Research Registrar, Carryduff Surgery) and Dr Paul Hamilton (Specialty Registrar in Chemical Pathology) Belfast Health and Social Care Trust.

POSTGRADUATE QUIZ

A 13 year old boy was brought by his mother to his General Practitioner with concerns about a skin lesion. The lesion on his upper chest appeared and grew over a 3 month period. He had no history of significant sunburn and no family history of melanoma. There was no history of bleeding, but the lesion had become itchy. On gross examination the lesion was 5x4mm, raised and darkly pigmented. The boy's mother was concerned that the lesion may be sinister in nature. How would you address these concerns?

Dr Nigel Hart and Dr Finbar McGrady (Academic General Practitioners, Centre for Medical Education, Queen's University Belfast). The authors would like to thank the patient and parents for their informed consent for use of these images.

ANSWERS See overleaf

CONSIDER CONTRIBUTING TO CURIOSITAS?
Please refer to '*Curiositas: Guidelines for contributors*' http://www.ums.ac.uk/curiositas.html and email *umj@qub.ac.uk* with your ideas and submissions.

Curiositas: Answers

UNDERGRADUATE QUIZ

1. The rash is erythema nodosum - the picture shows the classical red lumps (subcutaneous nodules) that often form on the shins, or less commonly on the thighs or forearms.
2. The dry cough, arthralgia, night sweats and erythema nodosum all point towards a probable diagnosis of sarcoidosis.
3. A chest x-ray would be appropriate and may show bilateral or paratracheal hilar lymphadenopathy

Dr Kieran McGlade (General Practitioner) and Dr Rachel Martin (GPST3 Research Registrar), Dunluce Health Centre.

HISTORICAL QUIZ

In 1958, Prof John Pemberton (Image 1) was appointed to the Chair of Social and Preventive Medicine at QUB.1 Pemberton believed that medical students should spend more time in General Practice. Among the benefits, he highlighted: "opportunities of seeing disease in its early stages" and "practising preventive medicine".2 He also recognised how a medical student, visiting the patients' homes with a doctor, would receive a practical demonstration of; the importance of overcrowding, ignorance of the simple rules of hygiene and strained human relationships in the aetiology of ill health.

In 1964 Dr William George Irwin (Image 2) was appointed as Chair of General Practice (the 4th in the UK). Professor Irwin was the first UK practitioner to establish a practice-linked department and following 9 years of hard work, 4 practices came together in the newly built Dunluce Health Centre. The centre offered tutorial rooms, a small library and state-of-the-art consulting rooms that, with patient consent, could avail of one-way mirrors and video cameras to facilitate learning. At the height of GP involvement in the QUB medical curriculum, all students took part in a family attachment during first and second year, with fourth year (four weeks) and fifth year (six weeks) mandatory clerkships based in GP and the wider community.

1. Harland R. The history of the teaching of the specialty of general practice in Northern Ireland. Presidential address to the Ulster Medical Society. *Ulster Med* J. 2001;**70(1)**: 5.
2. Pemberton J. Illness in general practice. *Br Med J*. 1949;**1(4598)**: 306.
3. Bengoa R. Systems, Not Structures - Changing Health and Social Care. https://www.health-ni.gov.uk/publications/systems-not-structures-changing-health-and-social-care-full-report Accessed 29th Nov 2016
4. O'Neill, M. Health and Wellbeing 2026: Delivering Together https://www.health-ni.gov.uk/publications/health-and-wellbeing-2026-delivering-together Accessed 29th Nov 2016.

Dr Nigel Hart and Dr Jenny Johnston (Senior Lecturers (Education), Centre for Medical Education, Queen' University Belfast).

CONTINUING MEDICAL EDUCATION QUIZ

1. Thrombocytosis.
2. Secondary causes[1]
   - infection
   - cancer e.g. of lung, gastrointestinal tract, ovaries or breast
   - trauma
   - splenic dysfunction
   - blood loss
   - iron deficiency anaemia
   - medication
3. A physical examination may incorporate assessments of the:
   a. Respiratory system - assessing for infection and signs of malignancy, and gastrointestinal system, assessing for signs of bleeding, ascites, organomegaly or other masses.
   b. Breast and pelvic examination for signs of malignancy.
4. Request an urgent chest x-ray and consider a red flag referral to a secondary care respiratory team due to a persistent chest infection with thrombocytosis[2].

Thrombocytosis can be a primary problem, or secondary to another condition.. It has been suggested that up to 40% of patients with a platelet count greater than $400x10^9$/L and no obvious secondary cause, have an underlying cancer. Such cancers are likely to be solid tumours[3,4]. Although this example quotes $400x10^9$/L, some laboratories have a reference range of $150\text{-}450x10^9$/L. Clinicians should consider underlying cancer in the absence of an identifiable secondary cause when the platelet count exceeds the reference range. The significance of thrombocytosis in relation to cancers is recognised in the NICE guideline for the recognition and referral for suspected cancer[2].

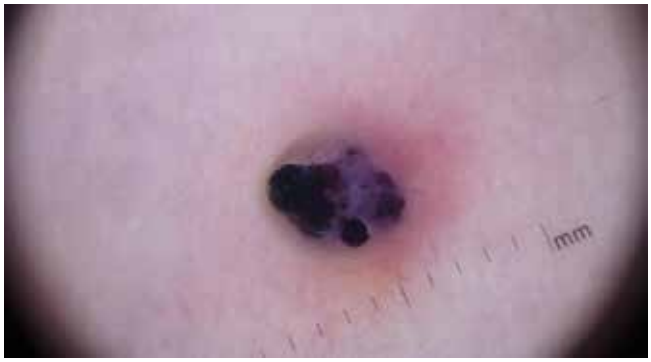
1. Platelet count. 2015; Available at: http://labtestsonline.org.uk/understanding/analytes/platelet/tab/test/). Accessed November, 16th, 2016.
2. NICE guidelines (NG12): Suspected cancer: recognition and referral 2015. Available: https://www.nice.org.uk/guidance/ng12/resources/suspected-cancer-recognition-and-referral-1837268071621. Accessed November, 16th, 2016..
3. Lin RJ, Afshar-Kharghan V, Schafer AI. Paraneoplastic thrombocytosis: the secrets of tumor self-promotion. *Blood. 2014;* **124(2)**: 184-187.
4. Stone RL, Nick AM, McNeish IA, Balkwill F, Han HD, Bottsford-Miller J, et al. Paraneoplastic thrombocytosis in ovarian cancer. *NEJM. 2012;* **366(7)**: 610-8.

Dr Carl Brennan (GPST3 Research Registrar, Carryduff Surgery) & Dr Paul Hamilton (Specialty Registrar in Chemical Pathology) Belfast Health & Social Care Trust.

POSTGRADUATE QUIZ

When viewing a skin lesion with the naked eye, the outer surface of the epidermis *(the stratum corneum)* reflects light which reduces the ability to see what is happening in the deeper structures. Dermoscopy using a dermatoscope *(a device that combines a light-source with magnification)* is a non-invasive technique that allows visualization of microstructures of the epidermis, the dermo-epidermal junction and deeper into the dermis[1,2].

The use of dermoscopy has been shown to improve the ability of GPs to diagnose skin lesions as benign or malignant[3]. The lesion in the presented case was examined and photographed using a dematoscope with a camera attached.



Dermatoscopic view of the lesion on the upper chest wall

Dermoscopic examination of the lesion using polarised light is seen in *Image 2.* Dermoscopically this lesion can be described as: blue and purple clods and two structureless black areas with sharply demarcated edges. These findings give the diagnosis of a thrombosed haemangioma. *(Red and blue represent blood in different stages of oxygenation, purple is a mix of the two, and black is extravasated blood that has solidified. The whitish grey area correlates with fibrous stroma within the haemangioma).* On this basis, reassurance was given to the boy and his mother.

1. de Vries E, Coebergh JW. Cutaneous malignant melanoma in Europe. Eur J Cancer 2004; 40:2355–66.
2. Kittler H, Pehamberger H, Wolff K, Binder M. Diagnostic accuracy of dermoscopy. Lancet Oncol 2002; 3:159–65.
3. Argenziano G et al. Dermoscopy improves accuracy of primary care physicians to triage lesions suggestive of skin cancer. J Clin Oncol. 2006 Apr 20;24(12):1877-82.

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