

Early diagnosis matters

-a GP perspective

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Stating the Obvious

- If patients are diagnosed early the chance of cure is markedly improved. Five-year survival also increases very significantly.
- This requires the patient to recognise the symptoms, decide to come and tell the doctor about the symptoms, the GP to recognise symptoms as potentially a problem and investigate and /or refer urgently.

5 year Survival rates

- Bowel cancer
- Stage 1- 93.3% Stage 4 -6.6%

- Lung cancer
- stage 1 -71% stage 4 -0% (all dead!) stage 3- 6%

- Ovarian cancer
- stage 1 -75.9% stage 4- less than 15%

The problem for the GP

- We all see lots of patients with numerous and varied symptoms, the vast majority of which do not have cancer.
- Our job is to detect that needle in a haystack, that patient whose symptoms are indicative of early cancer and who needs urgent referral.
- Not an easy or simple task.

Incidence

- Even for the common cancers the average full-time GP will only make 3-4 new diagnoses of breast or bowel cancer per year
- For the intermediate cancer such as ovarian or pancreatic cancer 3-4 cases per working lifetime is all they will diagnose.
- For the rarer cancers they may never diagnose a single case in their working lifetime.

The problem for the patient

- Patient has to;
- Recognise that the symptoms are potentially serious and decide to do something about them.
- Get an appointment with the doctor (something that is not always easy)
- Pluck up the courage/overcome their embarrassment to tell the doctor the symptoms (often not done in a coherent way)
- Hope that the GP recognises the potential seriousness of the symptoms and does something about them.

So how do we do it

- Some are obvious such as a breast lump
- For the other cancers constellations of symptoms are more important than any one symptom. Persistent worsening symptoms are also more significant than one off symptoms.
- Need a high index of suspicion.
- There are tools to help us such as clinical decision support tools.

Clinical Decision Support Tools

- CDST or risk assessment tools (RAT) these have been designed to help clinicians to make a decision as to whether to refer patients with symptoms of colorectal or lung cancer. They should not replace clinical judgement but they can certainly help in borderline cases with multiple symptoms.
- Available both as paper charts and also now as an electronic tool which can be embedded into our computers systems.

Colorectal cancer Risk Assessment Tool

Constipation	Diarrhoea	Rectal bleeding	Loss of Weight	Abdominal pain	Abdominal tenderness	Abnormal rectal exam	Haemoglobi n 10-13g/dl	Haemoglobi n < 10 g/dl	
0.4	0.9	2.4	1.2	1.1	1.1	1.5	0.97	2.3	PPV as a single symptom
0.8	1.1	2.4	3.0	1.5	1.7	2.6	1.2	2.6	Constipation
	1.5	3.4	3.1	1.9	2.4	11	2.2	2.9	Diarrhoea
		6.8	4.7	3.1	4.5	8.5	3.6	3.2	Rectal bleeding
			1.4	3.4	6.4	7.4	1.3	4.7	Loss of Weight
				3.0	1.4	3.3	2.2	6.9	Abdominal pain
					1.7	5.8	2.7	>10	Abdominal tenderness

Electronic Clinical Decision Support Tools

- Developed by Macmillan in conjunction with BMJ Informatica
- Picks up a range of symptoms from the patient's records together with the demographics, calculates a risk score and if it's over a certain level will trigger a pop-up alert to the GP.
- Phase 2 pilot just completed

Tumour markers

- Available for a range of cancers best-known and least unreliable are;
- PSA for prostate cancer
- CA125 for ovarian cancer
- (also available for bowel cancer but not very good)

Ultrasound

- Very useful non-invasive investigation
- However heavily operator dependent which restricts its use
- Especially useful for abdominal and pelvic symptoms.
- If it was less operator dependent would have much wider uses, for instance with head and neck lumps

Screening

- Cervical -smears
- Breast –Mammography
- Bowel - pooh sample
 - One off flexible sigmoidoscopy at age 50
- Prostate PSA not good enough

Vaccination

- HPV vaccination for girls age 12
- This infection causes almost all cases of cervical cancer

Technology that could help

- Ultrasound that is less operator dependent so we could use it in our GP surgeries
- Near patient/Finger prick testing for tumour markers

This would be particularly useful for PSA not so much as a diagnostic tool but as a monitoring tool for patients with prostate cancer. If this was combined with a central expert computer database patients could self monitor.

Technology that could help

- Better tumour markers -more specific
- Skin cancer. Tele-dermatology which the public could access directly if they worried about a skin lesion. Digital cameras now take extremely good pictures.
- Better risk assessment tools
- Education packages both for the public and professionals

Summary wish list

- Easy-to-use reliable ultrasound
- Tumour markers that are both 100% specific and 100% sensitive
- Clinical decision support tools that are accurate and specific
- Expert remote systems that the public can access
- A crystal ball that works!

CLASP – Healthcare

Time	Item	Speaker
10.00 – 10.30	Registration and Coffee	
10.30 – 10.45	Welcome and Introduction	Dewi Lewis - CLASP Panel and former GE Healthcare and
10.45 – 11.05	STFC Capabilities in Healthcare	Barbara Camanzi – STFC Futures
11.05 – 11.30	Healthcare Challenges for CLASP - Radioisotopes	James Ballinger - NHS
11.30 – 11.55	Healthcare Challenges for CLASP – Imaging Technology	Peter Jarritt - NHS
11.55 – 12.20	Healthcare Challenges for CLASP – Early Diagnosis	Linda Mahon-Daly – HNS
12.20 – 13.20	Lunch	
13.20 – 13.40	Case Study – Gamma Technologies Ltd	John Lees - University of Leicester
13.40 – 13.50	CLASP Funding Details	Phillip Tait STFC External Innovations
13.50 – 16.00	Networking and collaboration building	