

For my elective I went to St Barts Hospital, London for an elective in Haemato-oncology. As the hospital is part of Barts and the London Medical School, most students will have been to the site and will be aware of the facilities available at the site

1. What are the prevalent haemato-oncological conditions at Barts?

Barts hospital is at the forefront of treatment for cancer. It has a dedicated research centre and it trials new regimes. As it is a tertiary centre it is dedicated to deal with most cancers and provide most services onsite i.e. inpatient, outpatient, specialist pharmacy and treatments: Brachytherapy, chemotherapy, cyberknife, gamma knife radiosurgery & surgery(except metastatic spinal cord compression)

In an acute setting it deals with the following:

Conditions caused by the systemic treatment of cancer	Conditions arising as a result of radiotherapy	Conditions caused directly by malignant disease and presenting as an urgent acute problem
Neutropenic sepsis	Acute skin conditions	Uncontrolled pain
Uncontrolled nausea and vomiting	Uncontrolled nausea and vomiting	Pleural effusion
Extravasation injury	Uncontrolled diarrhoea	Pericardial effusion
Acute hypersensitivity reactions including anaphylactic shock	Uncontrolled mucositis	Superior mediastinal obstruction syndrome, including superior vena caval obstruction
Complications associated with venous access devices	Acute radiation pneumonitis	Abdominal ascites
Uncontrolled diarrhoea	Acute cerebral/other CNS oedema	Hypercalcaemia
Uncontrolled mucositis		Lymphangitis carcinomatosa
Hypomagnesaemia		Spinal cord compression and Cerebral space occupying lesion

This table was reproduced from Reference 5

The cancers they deal with include¹:

▲ Leukaemia	\	Researchers focus on these areas
▲ Lymphoma	=	
▲ Pancreatic cancer	/	
▲ Breast cancer	\	Enhancing their expertise
▲ Cervical cancer	\	
▲ Ovarian cancer	=	
▲ Prostate cancer	/	
▲ Testicular cancer	/	

In terms of difference from the rest of the UK, other tertiary centres adopt a similar approach i.e. specialising in cancers but researching in different areas. The use of clinical trials adds hope where patients are deemed unsuitable for existing treatment or standard therapies have failed.

The centres also comprise a team of specialists who together can provide not only a health approach but a holistic approach in the management of cancer. Since Barts is a tertiary centre, they deal with

the difficult/resistant cases of blood cancers, that do not respond to the standard treatments. Although this can be a daunting situation for the patients, it also means that the patient will get treatment at the forefront of medicine and that if Barts cannot help, it is very unlikely that any help will be available anywhere in the world.

2. To understand the background of organisation of cancer services in the UK.

Barts is organised to accept referrals from the local trusts and GPs and thus is an integral part of local healthcare. A primary centre is your GP who may diagnose or run tests in order to help narrow down the conditions. They may treat some conditions and/or manage others, but they refer to a secondary centre if it's beyond their scope.

A secondary centre is usually a hospital whereby they provide treatment for a condition that the primary centre cannot treat or have failed to treat.

A tertiary centre is a so called problem shooter, whereby they deal with patients who have had relapses or where standard treatments have been unsuccessful.

Barts is a tertiary centre and one of the largest and oldest centres specialising in haematological cancers especially lymphoma and AML. They use specialist treatments including Bone marrow transplant & stem cell transplant.

There are other tertiary centres in the UK and they do deal with haematological malignancies but Barts has the best reputation and is always investing in research to produce better treatments etc. In essence cancer services at other establishments would probably aim to organise their services in a similar fashion to Barts

The hospitals can then be subdivided into what levels of care they provide. These are divided as below⁶:

- Level 1
- Level 2a
- Level 2b
- Level 3

Level 1⁶: Where treatment does not normally result in significant neutropenia i.e. less than 7 days. Consultant haematologist has sessions here but is contactable by telephone 24 hours a day. Access to blood transfusions and protocols for treating serious complications e.g. neutropenic sepsis.

Level 2a⁶: Treatment can be predicted to cause bone marrow suppression and neutropenia of less than 7 days. 24 hour cover with a combination of a consultant haematologist and junior doctors. Access to long duration transfusions/infusions as well as a specialist pharmacist, HDU, ICU and the possibility of onsite interventional radiology services

Level 2b⁶: The treatment would be more complex than the above two levels of care and would probably result in bone marrow suppression and the resulting complications. 24 hour cover with a consultant haematologist and junior trainee or sub-consultant non career grade staff. Also, there would be specialist nurses available. As with Level 2a, there should also be dedicated haematology wards with isolation as well as access to clinical oncologists for advice on radiotherapy

Level 3⁶: Like Level 2b, but also the addition of rare haematological malignancies, where the centralisation of services is deemed necessary. 24 hour cover by a consultant haematologist and also 24 hour cover with specialist middle grade medical staff and specialist nurses also. On top of the services offered in Level 2b, Level 3 also provides consultant microbiologist advice and the ability to perform leucapheresis (The ability to separate white blood cells from blood).

3. To extend my knowledge of haematological malignancies and management

Although acutely haematological malignancies can present in a specific way, its treatment can also result in an acute presentation. The malignancies include AML & ALL but the

consequences of treatment include: neutropenia and bone marrow transplant problems. Thus the management of these conditions can be difficult and thus the idea of specialist centres who mainly manage patients with malignancies, makes sense and potentially allows a greater return on investment

There are 2 acute leukaemias: AML & ALL⁴

AML: quite rare about 2500 people are diagnosed in the UK¹

Can affect any age but usually >65 years

Results in immature cells i.e. RBC, WBC and platelets being produced which cannot mature in to normal cells

The mature cells then take up space in the bone marrow reducing its ability to produce normal cells

The body becomes susceptible to bruising, infection and anaemia

ALL: rare affecting 400 adults per year in the UK

Usually affects <15 years although can also affect those 15-25 & > 75 years

Cancer of WBC, therefore the body produces lymphoblasts i.e. immature WBC

Person becomes susceptible to infection

Presentation⁴:

Anaemia (Low RBC)

Bruising (Thrombocytopenia)

Increased Lymphoblasts leading to respiratory system problems, MI, renal impairment, stroke, confusion, pyrexia, malaise, muscle and joint pain

Acute management: ABCDE

Treatment: Identify type of leukaemia and treat accordingly.

Mention infertility and other side effects: hair loss, emesis, infections etc.

Type siblings in case a bone marrow transplant is required

Give anti-emetics, hydrate and regular mouthwashes and antifungals

Bone Marrow Transplant Complications

Early

Fever

Upper GI symptoms

Diarrhoea

Acute GVH disease (Rashes on palms and body)

Interstitial shadow on CXR

Late

Cardiac Failure

Hypertension

Decreased renal function

Haemorrhagic cystitis

CNS issues: seizures, stroke

Neutropenia⁴

The patient becomes immunocompromised and is therefore susceptible to infection. Blood cultures and empirical antibiotic treatment is required to prevent the treatment of leukaemia killing the patient.

4. **To improve my skills at discussing sensitive issues with patients**

Experience, experience, experience. No matter how many courses or training one has undertaken, it is no substitute for dealing with difficult/sensitive issues. In this case the usual scenario is breaking bad news. The SPIKES framework is a useful tool, but in the end, it is the individual's ability to tailor it to their requirements in order to break bad news in a

humane way that makes the difference. It is a difficult subject to deal with but one that must be learned, else the patient's rapport, even trust may be lost. This can result in the patient's perception of healthcare being a poor one.

I observed a physician giving bad news and realised that the physician spoke clearly and had given a lot of thought to what he would say. This planning, was a useful tool, which I plan on using in my practice to ensure that I can give bad news in a fashion, which I would like if someone broke the news to me. The physician also allowed plenty of time for the patient to collect their thoughts and listened intently to the patient. This experience has taught me how breaking bad news should be undertaken and it will remain a part of skills as a doctor.

References/Further reading

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