Tayside hotline for cancer patients with severe back pain.

Cancer, which has spread to bone may result in vertebral collapse, tumour spread into the epidural space, compression of the spinal cord and eventual paralyses. Many patients develop vertebral metastases and perhaps 10% of them go on to develop malignant cord compression [MCC].

The Problem
An audit of the diagnosis, management and outcome of malignant cord compression was begun in 1998 and funded by the Scottish Executive [Levack P et al, 2001] This detailed study of 320 patients, confirmed the dismal outcome for patients with MCC. By the time a diagnosis was established by MRI, a median of 90 days after first developing back pain and 66 days after going to see their GP, less than 1 in 5 patients [18%] were able to walk unaided. More than one third [36%} were catheterised and median survival was 59 days.

Scottish Executive Response
All Scottish TRUSTS [Health boards] were advised to develop rapid referral systems to improve the earlier diagnosis of MCC [HDL2001] following a rating of the audit as excellent.

Tayside [Scotland] response
Tayside had already established a malignant cord compression group [2000] with representation from palliative medicine, oncology, radiology, radiography, neurology, neurosurgery, general practice and physiotherapy. The group redesigned the referral process for suspected MCC- The Tayside Rapid Referral "Hotline" Pilot.

Before the hotline, the patients were initially referred for plain films of the spine. The Scottish audit showed that such pre-diagnosis plain x-rays had a usefulness of less than 20%. Patients were then usually referred for a bone scan and again the usefulness of this in establishing epidural disease / early cord compression was less than 20%. Eventually, MCC was diagnosed with MRI, by which time four out of five patients were unable to walk.

The Hotline
MRI imaging services are under pressure and urgent scanning must be reserved for those patients who will benefit the most or have the most to lose. The pilot was designed to determine whether patients known [or very strongly suspected] to have cancer, and who were in the early stages of developing cord compression, could be identified from the population of cancer patients who developed back pain.

Referrals are accepted from hospital and the community for patients with

Known Cancer +

New pain suggestive of epidural disease[especially severe root pain] +/-

Any new difficulty in walking.

How does the hotline work?
The referrer: The GP, for example, may see a patient at home who has severe and worsening root pain and some weakness in her leg. The GP phones to discuss it with the hotline Clinician. If the clinical story sounds suspicious of epidural disease, the

hotline clinician discusses the situation with the patient's oncologist [if there is one] or the on-call oncologist. Suitable patients are then scanned- usually within 24 hours.

The MRI Scanning Process A daily afternoon MRI slot is reserved. If the slot is unfilled by lunchtime it is allocated to an urgent [in / out] patient so that no magnet scan time is lost. After the cut off time for MRI slot allocation, staff will with agreement, scan the patient before the next morning's list begins. An ad hoc on call service is available at weekends if there is an intention to carry out radiotherapy or surgery during the weekend - otherwise the patient is scanned before the routine list starts on Monday. In this way, MRI waiting times are not compromised and radiotherapy, if indicated, can be arranged after a positive scan.

What have we achieved?
Any achievement is due to the enthusiasm of everyone in the group. A special mention for the MRI staff who must be congratulated in their willingness and commitment to improve patient care.

For the patient

- Time from referral to diagnosis reduced from median 66 days to 1 day
- 60% patients referred through the hotline had MCC [50%] or malignant nerve root compression [10%]. *Before the hotline, 16% of patients referred for MRI with suspected MCC in Tayside actually had MCC*
- Many more MCC patients are walking unaided at diagnosis. [50% v 18%] & fewer were catheterised.[12% v 36%]
- More patients are treated with DXT as an out patient.
- MRI scan, report and management plan with 24 hours.

For the Hospital and staff

Referrer: Referral involves a single phone call to a clinician 247.
Radiographer:Scan time reduced from 45-60 minutes [time taken to scan a paralysed patient in pain] to 30 minutes.
Nurses/ radiographic assistants: Moving and handling problems reduced.
Radiologist: Quality of scan improved [patient more mobile and in less pain- reduced movement blurring on image]
Waiting Times: No noticeable effect

National developments resulting directly from Tayside work.

1. Macmillan has granted £0.5 million, which we are using to spread the experience of Tayside throughout Scotland via the cancer networks. Cord compression project managers have been appointed in the three cancer regions & we are currently advising SCAN & WOSCAN in Scotland and NICE in England.
2. With ISD we have developed a dataset for use throughout Scotland.
3. With Tayside Clinical IT, an E-Case dataset is now available for electronic data collection & analyses in Scotland.

Papers

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4. **Levack P, Graham J, Kidd J.** Listen to the patient: quality of life of patients with recently diagnosed malignant cord compression in relation to their disability. Palliat Med 2004: 18:594-601.
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6. **Summer d, Collie DA, Levack P.** Assessment of MSCC using MRI. Br J Radiol.2001; 74(886): 977-8.8.
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8. Scottish Audit of malignant cord compression. **Levack p et al,. [CRAG audit]** Report to SEHD 2001

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