REFERRAL AND MANAGEMENT
GUIDELINES FOR
UPPER GASTROINTESTINAL CANCER
WITHIN NORTH TRENT

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Produced by the
North Trent UGI Cancer NSSG
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THE NETWORK

Introduction

These network guidelines are intended to assist clinicians in the diagnosis, referral and management of patients with upper gastrointestinal cancer. They have been drafted in light of the ‘Improving Outcomes Guidance for Upper GI Cancer’ and the ‘Upper GI Standards’. These guidelines reflect the networks response to this guidance and have been developed according to the networks population, geography and resources.

The Hospitals

The North Trent Cancer Network consists of the following Hospitals:

Barnsley District General Hospital
Chesterfield & North Derbyshire Royal Hospital
Doncaster and Bassetlaw Hospitals
Rotherham General Hospital
Sheffield, Northern General Hospital
Sheffield, Royal Hallamshire Hospital
Sheffield, Weston Park Hospital

The Network Upper GI Cancer Group

Core Group

Chair
Mr A Wyman Consultant Surgeon Sheffield Teaching Hospitals

Deputy Chair
Mr N Everitt Consultant Surgeon Chesterfield Royal Hospital

MDT Lead Clinicians
Mr C Stoddard Consultant Surgeon Sheffield Teaching Hospitals (Clinical Lead & gastro-oesophageal)
Mr M Peterson Consultant Surgeon Sheffield Teaching Hospitals (Pancreatice-biliary)
Mr N Everitt Consultant Surgeon Chesterfield Royal Hospital
Mr S Anwar Consultant Surgeon Barnsley Hospital
Mr C Kelty Consultant Surgeon Doncaster & Bassetlaw
Mr M Lambertz Consultant Surgeon Rotherham Hospital
Nurse Members

- Tracey Allen  Upper GI Nurse Specialist  Barnsley Hospital
- Christine Garrison  Upper GI Nurse Specialist  Rotherham Hospital
- Yvonne Elmore  Upper GI Nurse Specialist  Doncaster & Bassetlaw
- Janet Turner  Upper GI Nurse Specialist  Doncaster & Bassetlaw
- Emma Waterfield  Upper GI Nurse Specialist  Chesterfield Royal Hospital
- Anne Crofts  Upper GI Nurse Specialist  Sheffield Teaching Hospitals
- Gill Troy  Upper GI Nurse Specialist  Sheffield Teaching Hospitals
- Jo Bickerstaff  Upper GI Nurse Specialist  Sheffield Teaching Hospitals

User Representatives

- Mrs Doreen Gelder  Doncaster
- Mrs Joan Taylor  Sheffield

Roles Assigned to Core Members

Histopathology Lead
- Dr Asha Dube  Consultant Histopathologist  Sheffield

NSSG Service Improvement Lead
- Dr Gavin Hill  Gastroenterologist  Doncaster & Bassetlaw

Member Responsible for User Issues & Information
- Anne Crofts  UGI Nurse Specialist  Sheffield

Research Network Representative
- Dr J Wadsley  Cons Oncologist  Sheffield

Non Core Members

Associate Manager for Cancer Services
- Jill Tyack  Sheffield

Management Support
- Clare Freeland  Service Improvement Lead  NTCN

Administrative Support
- James Hanwell  Project Support  NTCN
Dr Rob Peck  Cons Radiologist  STH
Dr Tony Blakeborough  Cons Radiologist  STH
Dr Judith Howard  Cons Radiologist  D&B
Dr James Mackinlay  Cons Radiologist  D&B
Dr David Bullimore  Cons Gastroenterologist  BHNFT
Mr Muhammed Shiwani  Cons Surgeon  BHNFT
Dr Deirdre McKenna  Cons Histopathologist  CNDRH
Dr Krish Ravi  Cons Surgeon  CNDRH
Dr Michael Ashton  Cons Gastroenterologist  CNDRH
Dr Roger Start  Cons Histopathologist  CNDRH
Dr G Singh  Cons Gastroenterologist  D&B
Dr Gary James  Cons Gastroenterologist  D&B
Dr Gavin Hill  Staff Grade Gastroenterologist  D&B
Mr George Jacob  Cons Surgeon  D&B
Dr J Sayer  Cons Gastroenterologist  D&B
Mr Clive Kelty  Cons Surgeon  D&B
Mr John Bagley  Cons Surgeon  D&B
Dr G Kurien  Cons Histopathologist  D&B
Lesley Bruce  Research Coordinator  NTCRN
Dr Basumani  Cons Gastroenterologist  RDGH
Mr John Cooper  Cons Surgeon  RDGH
Dr Pierre Willemsen  Cons Gastroenterologist  RDGH
Alison Grundy  Manager  RDGH
Mr Ali Majeed  Cons Surgeon  STH
Dr Debbie Furniss  Cons Oncologist  STH
Dr Sue Darby  Cons Oncologist  STH
Jill Tyack  Associate Manager  STH
Dr Joanne Hornbuckle  Cons Oncologist  STH
Dr Linda Evans  Cons Oncologist  STH
Dr Mark Donnelly  Cons Gastroenterologist  STH
Dr John Hebden  Cons Gastroenterologist  STH
Mr Roger Ackroyd  Cons Surgeon  STH
Mr Kirt Patel  Cons Surgeon  STH
Mr M Al-Mukhtar  Cons Surgeon  STH
Mr J Gardner-Thorpe  Cons Surgeon  STH
Dr Asha Dube  Cons Histopathologist  STH
Dr Tim Stephenson  Cons Histopathologist  STH
Dr P Kitsana  Cons Histopathologist  STH
Dr Simon Cross  Cons Histopathologist  STH
Dr P Vergani  Cons Histopathologist  STH
Dr D Hughes  Cons Histopathologist  STH
Dr Simon Pledge  Cons Oncologist  STH
Dr Stuart Riley  Cons Gastroenterologist  STH
Dr A Hopper  Cons Gastroenterologist  STH

The Network welcomes any other interested clinicians not named above to its MDT meetings, business meetings and educational events.
REFERRAL GUIDELINES

From Primary Care

Referral of any patient from primary care with suspected upper gastrointestinal cancer should be under the national two-week wait guidelines. The North Trent Upper GI Cancer Group endorse, and are practising in accordance with these guidelines.

From Secondary to Tertiary Care

On many occasions direct referral from primary care to a specialist unit will occur and such patients will be referred and dealt with as above. Where a patient is diagnosed as having upper GI cancer and expertise for treatment (surgical, oncological or palliative care) are not available then referral to the Cancer Centre unit is appropriate. Before referral for resection patients should usually have undergone cross-sectional imaging to exclude metastatic or locally advanced disease.

Indications for Surgical Referral

Because of the biological nature of most upper GI cancers, surgery is currently the only treatment modality that is potentially curative; the only exception being some oesophageal cancers that may respond very well to radical chemoradiotherapy. All patients with potentially curative malignancy should therefore be referred for a joint surgical/oncological opinion in the MDT setting. Quite often potential curability is only determined after extensive investigation (i.e. cross-sectional imaging and laparoscopy). If there is no unequivocal evidence of metastatic disease then central referral is indicated for all three major cancer types.

Indications for palliative surgical referral are gastric outlet obstruction and malignant biliary obstruction not amenable to stenting. Local circumstances will dictate whether tertiary referral to another unit is necessary for palliative stenting procedures.

In patients with potentially respectable tumours endoscopic interventions such as biliary or oesophageal stenting should not be performed prior to referral. Such procedures may interfere with staging investigations or the complications associated with their use may prejudice any possible surgical treatment.

Investigation Prior to Referral

CT scanning should be carried out prior to central MDT referral unless there is significant local delay in carrying this out. For cancer of the oesophagus and gastroesophageal junction that appears to be potentially resectable (on CT) PET scan requests can be made at the time of referral to shorten any subsequent delays in the staging process.
REFERRAL PATHWAYS

Oesophago-gastric Cancer

In response to the Improving Outcomes Guidance for Upper GI cancer the Network has located all resectional oesophago-gastric cancer surgery on two major sites, Sheffield and Doncaster. Both hospitals work as a single cancer centre with a single MDT that is videoconferenced.

Six specialist surgeons provide a service for oesophago-gastric resection. The surgeons work as a single unit/service. The two surgical teams provide cross cover. Where waiting times for surgery are such that if cancer waiting times guidelines are at risk of being breached there is agreement to transfer patients to another surgeon for their surgery.

The catchment population for referral follows the flow diagram below. Referral is to a single point in each centre. All potentially operable patients are discussed at a single MDT that is teleconferenced between Sheffield and Doncaster.

Referring upper GI surgeons have the opportunity to participate in the surgery of any patient referred into the two main centres subject to individual agreement with the surgeons concerned.

Long term follow up after resection can be offered back to the referring unit subject to patient agreement.

Both surgical centres collect an agreed minimum data set prospectively for the purposes of auditing outcomes, waiting times data and long term survival.

Pancreatic Cancer

All potentially operable pancreatic cancers should be referred to the pancreatoco-biliary MDT in Sheffield. Surgery is carried out only in the cancer centre (Sheffield).
Oesophageal & Gastric Cancer

North Trent Network – Referral Pathway (as of July 2007)

**Barnsley**
Diagnostic/local care: Oesophageal and Gastric

**Oesophageal & Gastric**

**Doncaster/Bassetlaw**
Specialist care: Oesophageal and Gastric
Diagnostic/local care: Oesophageal and Gastric

**Rotherham**
Diagnostic/local care: Oesophageal and Gastric

Oesophageal & Gastric split between two units as per local arrangement

**Sheffield**
Specialist care: Oesophageal and Gastric
Diagnostic/local care: Oesophageal and Gastric

**Chesterfield**
Diagnostic/local care: Oesophageal and Gastric

Oesophageal & Gastric
Pancreatic Cancer
North Trent Network – Referral Pathway

**Barnsley**
Diagnostic/local care: Pancreas

**Doncaster/Bassetlaw**
Diagnostic/local care: Pancreas

**Chesterfield**
Diagnostic/local care: Pancreas

**Sheffield**
Specialist care: Pancreas
Diagnostic/local care: Pancreas

**Rotherham**
Diagnostic/local care: Pancreas
THE UPPER GASTROINTESTINAL CANCER MDT

The Network has established a central MDT meeting for discussion of upper gastrointestinal cancer cases.

Venue: Royal Hallamshire Hospital, J Floor, MDT room (J39)
Day: Tuesday
Time: 11.00am
Frequency: Weekly
Structure: Oesophago-gastric cancers: 11.00 - 12.30
Pancreaticobiliary cancers: 12.45 - 14.00

Video conferencing: With Doncaster commencing at 11.00. (See guidelines for video Conferencing)

Guidelines for MDT working

The role of the MDT is to ratify management decisions.

All patients with upper gastrointestinal cancer must be presented to a MDT at least once.

Most patients will be presented once assessment is complete. Prior presentation is usually undesirable and wastes MDT time.

MDT presentation should not delay surgical referral.

MDT decisions can be made outside of the formal MDT meeting by consultation with the appropriate team members. When this occurs the patient should still be formally presented at the next MDT meeting.

Early MDT presentation is appropriate when endoscopic histology is equivocal, but should not delay re-biopsy.

All potentially respectable patients referred in to the cancer centre should have their diagnostic biopsy material reviewed. Central review of pathology will require transfer of the actual slides and cannot be carried out over a video link. Where there is diagnostic uncertainty the case will be referred to a subspecialist or specialist pathologist.

Patients who undergo definitive surgery will require a second presentation to review formal histology and need for additional oncological therapy.

Patients who represent with symptomatic recurrence or advancement of their tumour should be re-presented to the MDT.
Guidelines for Videoconferencing

Video conferencing takes place each week between Sheffield and Doncaster MDT’s. Due to time constraints not all cases can be discussed.

All cases suitable for resection will be discussed prior to receiving any form of treatment. Difficult management cases including those in whom resectability is debatable will be discussed.

Cases that are obviously unresectable due to metastatic disease, comorbidity or extreme age will not be discussed at videoconferencing but will be fully discussed at the individual MDT’s.

Postoperative histology will not be discussed unless any unusual results present a management problem.

Patients that are inoperable and diagnosed outside Sheffield and Doncaster should be discussed at the local MDT. For the purposes of clinical governance and audit, details on these patients should be faxed into Sheffield or Doncaster on the agreed fax proformas. This arrangement covers all upper GI cancers: oesophageal, gastric and pancreatic.
OESOPHAGEAL CARCINOMA

Diagnosis

The diagnosis of oesophageal cancer must be established before therapeutic options can be discussed. The clinical features and diagnostic approach are similar for both adenocarcinoma and squamous carcinoma of the oesophagus.

The investigation of choice should be an upper gastrointestinal endoscopy. Any areas of abnormality within the oesophagus should be adequately biopsied. Biopsy should consist of adequate volume and depth specimens. There is evidence that the accuracy of diagnosis increases with the number of biopsies performed, up to six. The recommendations for biopsy must, therefore, be six or more adequate volume biopsies.

Biopsy specimens should be analysed by an experienced Histopathologist. The British Society for Gastroenterology, Pathology Section recommends that dysplasia in oesophageal and gastric biopsies is confirmed by two pathologists with a specialist interest in gastro-intestinal pathology, as inter-observer variation is high for this diagnosis.

Investigations

The aim of staging investigations is to assess the extent of disease at presentation. This will guide the approach to treatment in each case. Priority should be given to discriminating T3 from T4 disease, level of lymph node involvement and metastatic disease from non-metastatic disease.

Essential modalities of oesophageal cancer staging are:

- Gastrointestinal endoscopy
- Endoluminal ultrasound
- C.T. of abdomen and thorax (include neck for middle and upper third tumours)
- PET CT scanning (on all cases considered for resection)

Other modalities that may be useful in selected cases and should, ideally, be available in all centres are laparoscopy, MRI, thoracoscopy and bronchoscopy.

Accurate endoscopic evaluation of precise site and length of tumour should be recorded in all cases.

C.T. scanning should be performed to assess the presence of mediastinal invasion, lymphadenopathy or metastatic disease. Some patients with iso-dense liver lesions are detected on ultrasonography more accurately than C.T. PET scanning is indicated when metastatic disease cannot be excluded and surgery is being considered.

Endoscopic ultrasound examination is useful for the accurate evaluation of T and N stage.

Laparoscopy improves the accuracy of staging offered by C.T. and ultrasound scan. It improves the detection rate for hepatic, peritoneal and lymph node metastases.

Bronchoscopy should be used to evaluate upper and middle third tumours if there is suspicion of local invasion or impending tracheo-oesophageal fistulation.
Pathology

Specimens should be reported in line with the Royal College of Pathologists Minimum Dataset for Reporting Common Cancers (www.rcpath.org). Staging will be according to the TNM system. The style of presentation of histopathology data sets is at the discretion of each individual MDT.

Patient Assessment

The decision on any particular treatment option for a patient with oesophageal carcinoma depends not only on the stage of the disease, but also on the fitness of the patient. Accurate pre-treatment assessment is, therefore, essential. If resection is going to be considered, the following assessments need to be made:

- Cardiovascular assessment, including 12 lead ECG
- Chest x-ray
- Spirometry
- Exercise shuttle test
- Arterial blood gas assay
- Renal function
- Hepatic function
- Nutritional status

Curative Treatment

Adjuvant Treatment

Pre-operative radiotherapy alone is of no proven benefit. Pre-operative chemotherapy, with Cisplatin and 5FU (OEO2 trial) confers a 10% survival advantage at two years and a 6% survival advantage at 5 years. Pre-operative treatment with chemotherapy is therefore currently standard practice for patients aged 70 years or under who have no significant cardiac disease. Chemo/radiotherapy is not currently offered. Patients can be offered entry into the neo adjuvant OE05 trial.

Pre-operative preparation

Careful pre-operative preparation and optimisation of the patient for surgery are essential. Smoking ought to be discouraged as early as possible. Pre-operative physiotherapy with coughing exercises should be instituted, nebulised bronchodilators with physiotherapy should be given to high-risk patients.

Patients undergoing oesophagectomy are at increased risk from deep vein thrombosis and pulmonary embolism. Prophylactic low molecular weight Heparin, antithromboembolism (TED) stockings and pneumatic calf compression in theatre should be employed.

Prophylactic antibiotics against respiratory and wound infection should be administered peri-operatively according to locally agreed antibiotic policies.

Haemoglobin concentration should be optimised pre-operatively. Blood should be cross-matched and available for surgery. The transfusion of blood should not be withheld if there is a clinical indication. (There is no strong evidence that blood transfusion itself alters prognosis in oesophageal carcinoma).
**Surgical resection**

Surgery is the main treatment that has repeatedly been shown to provide long term survival in oesophageal carcinoma, albeit in only 10 to 20% of cases. Resection, therefore, must be the chosen method of therapy in fit patients with favourable tumours of the middle and lower thirds of the oesophagus. Radical chemoradiotherapy may achieve long term survival in squamous cell cancers. Mid third tumours are particularly suitable.

The intent of surgery is to cure therefore complete resection with clear surgical margins and adequate lymph node dissection are the objective. A 10 cm proximal and distal margin is the ideal. However, in many cases this is not attainable, especially in more proximal tumours. The minimum resection margin should be 4cm. If there is any doubt about longitudinal clearance the resection margin should be assessed by frozen section histology prior to anastomosis.

Adenocarcinoma of the lower oesophagus commonly infiltrates the gastric cardia, fundus and lesser curve. Sleeve resection of the lesser curve and fundus is necessary to minimise positive distal resection margins. The need to achieve clear resection margins should be balanced against the TNM staging and, hence, the likelihood of recurrence elsewhere.

More than 75% of all oesophageal carcinomas, both squamous carcinomas and adenocarcinomas, have lymph node metastases at the time of surgery. Patients with lower third tumours frequently have positive lymph nodes around the coeliac axis, left gastric and common hepatic artery territories. Lymph node dissection improves the accuracy of final staging, reduces loco-regional recurrence and, in early cases, may improve survival. Insufficient studies have been performed to provide recommendations for the precise extent of lymphadenectomy, although two field dissection appears to be the best current option.

The stomach is the preferred organ of reconstruction. A pyloroplasty/pyloromyotomy is commonly performed but this is at the discretion of the surgeon. Colonic and jejunal inter-position are appropriate in specific situations. Minimally invasive techniques are now being introduced and outcomes should be fully audited.

**Palliative Treatment of Advanced Disease**

The aim of palliative treatment is to alleviate symptoms and improve quality of life. This primarily means relieving dysphagia. The possible palliative options include:

- Self-expanding metal stents
- External beam radiotherapy
- Chemotherapy
- Argon beam plasma coagulation (APC)
- Bipolar diathermy
- Intra-cavitary irradiation
- Photodynamic therapy (PDT)
- Oesophageal dilatation
- Laser re-canalisation
Oesophageal dilatation alone provides only short term relief and is not recommended. Self-expanding metal stents are easier and safer to insert than conventional plastic stents. The procedure related morbidity and mortality is lower. Covered expandable stents avoid the problem of tumour ingrowth, but are more prone to migration if used across the gastro-oesophageal junction. Laser therapy and APC are particularly useful when stents have become overgrown with tumour. Laser treatment alone requires significantly more interventions than stenting. The particular palliative technique chosen must be dictated by patient suitability and available expertise and facilities.

Follow-up

The purpose of follow-up is:

1. To detect the recurrence of malignant disease
2. To detect benign complications of intervention
3. To provide psycho-social support to patients and close family/carers

There is little consensus for the mode, duration or intensity of follow-up for patients with oesophageal carcinoma. There is no evidence that intensive follow-up improves the speed of detection of recurrent disease or alters its prognosis.

Follow-up should be tailored to local circumstances and the patients needs. Responsibility for long term follow up following resection should be offered back to the referring unit subject to patient agreement. Where possible follow-up care should be encouraged at a primary care level, with specialist nurse support, although, facility for outpatient review should be maintained. Patients should have urgent access to follow-up clinics should they develop any symptoms suggestive of recurrent disease.

GASTRIC CANCER

Diagnosis

The poor prognosis associated with most gastric carcinomas is due to late presentation. If gastric carcinoma is diagnosed when early, surgery is usually curative. Most early cancers produce symptoms therefore all patients presenting with dyspepsia over the age of fifty should be offered early upper gastro-intestinal endoscopy. Prompt endoscopy for dyspeptic symptoms, especially in patients over the age of fifty years, has been shown to increase the curative resection rate. There is evidence that H2 receptor blockers and proton pump inhibitors can heal early malignant gastric ulcers.

The most appropriate diagnostic intervention is upper gastro-intestinal endoscopy. Upper gastro-intestinal contrast radiology is not sensitive enough to allow early detection of gastric carcinoma. General Practitioners should be encouraged to use endoscopy as the first line of investigation, with minimal delay in referral.

Investigations

The aim of staging investigations is to assess the extent of disease at presentation and, therefore, plan the best therapeutic approach.

Upper gastrointestinal endoscopy is essential for diagnosis. It also allows assessment of the size and position of the tumour, which are important in planning surgery.
For the assessment of T, N and M stage, CT scanning is essential. Peritoneal carcinomatosis is often undetected by CT scanning and ultrasonography. Laparoscopy adds to the accuracy of pre-operative stage assessment and will reduce the number of unnecessary laparotomies. Endoscopic ultrasound may improve the quality of staging in selected cases. PET scanning is indicated when metastatic disease cannot be excluded and surgery is being considered.

Pathology

Specimens should be reported in line with the Royal College of Pathologists’ Minimum Dataset for Reporting Common Cancers (www.rcpath.org). Staging will be according to the TNM system. The style of presentation of histopathology data sets is at the discretion of each individual MDT.

Patient Assessment

The decision on treatment options should be made in the light of the patients general condition. Cardiovascular assessment, respiratory function, renal and hepatic function should all be considered. Nutritional status should be assessed. Any deficiencies in the above categories should be corrected as far as possible before embarking upon surgical resection if this is appropriate.

Curative Treatment

**Adjuvant treatment**

MAGIC, a MRC trial, has shown a 13% improvement in 5 year survival following peri-operative ECF chemotherapy. ECF peri-operative chemotherapy is therefore now our standard treatment in those patients that are eligible.

**Pre-operative Preparation**

The guidelines are the same as for oesophageal resection

**Surgical Resection**

The overall resection rate for gastric carcinoma should approach 50% with a curative resection rate of 30%.

The extent of resection required for curative intent is controversial. In stage 2 and 3a disease, extended (D2) lymph node dissection probably improves survival. The morbidity and mortality associated with more radical surgery is not unduly high if performed on a suitable patient and by a surgeon who is familiar with such techniques.

The extent of resection is determined by tumour size and position. Where the distance between gastro-oesophageal junction and the proximal margin of the tumour is greater than 5 cms, a distal gastrectomy/subtotal gastrectomy may be performed. Where the surgical margin between the tumour and gastro-oesophageal junction is less than 5 cms a total gastrectomy is necessary. These margins can be decreased to 3 cms for early carcinoma. In most cases Bormman IV (linitis plastica) tumours should be treated, if operable, by total gastrectomy.

Reconstruction after total gastrectomy should be by a jejunal Roux-en-Y. Reconstruction after distal gastrectomy is variable and according to the surgeons preferred technique.
Excision of the distal pancreas and spleen is only recommended in those circumstances where the tumour is tethered to, or invading, the tail or body of the pancreas. For tumours situated elsewhere in the stomach, distal pancreatectomy and splenectomy increases procedure related morbidity and mortality and has not been proved to improve survival.

Splenectomy is indicated where a proximal carcinoma is in close proximity to the spleen on the greater curvature or where splenic hilar nodes are obviously involved.

If patients are to undergo splenectomy, and this is known pre-operatively, pre-operative vaccination against pneumococcus and haemophilus influenza B should be given. Otherwise, immunisation should be given in the post-operative period.

Proximal gastric resection is not recommended. It has been shown to be associated with increased recurrence rates and significant bile reflux, which affects quality of life.

Minimally invasive techniques are now being introduced and outcomes should be fully audited.

**Palliative Treatment of Advanced Disease**

Palliative resection is indicated for those patients with gastric outflow obstruction and persistent bleeding. Wherever possible this should be by distal or sub-total gastrectomy, which has a lesser morbidity and mortality than total gastrectomy. Occasionally, palliative by-pass by gastroenterostomy is appropriate. Some patients may be more appropriately treated by pyloric/duodenal stenting.

Proximal lesions around the gastro-oesophageal junction, when causing dysphagia, can be palliated by stenting.

Palliative chemotherapy has been used in advanced disease with both symptomatic benefit and prolongation of survival. Patient selection is important and those with a good performance status are more likely to benefit. Fit patients with known residual disease after palliative resection should be referred for chemotherapy if their performance status is good.

Radiotherapy can have a role in the treatment of gastric body tumours that are bleeding or associated with pain.

Selection of the palliative treatment option is related to the nature and extent of the disease. An improvement in quality of life is the aim, with minimal associated morbidity and mortality.

**Follow-up**

The intentions of follow-up are to detect recurrent disease and to treat the physiological effects of gastrectomy.

There is no justification for regular endoscopy in patients treated by total gastrectomy. In patients treated for early disease by distal gastrectomy, recurrence may occur in the gastric remnant and annual follow-up endoscopy is recommended.

There is no evidence to support any other regular investigation in the follow-up for gastric cancer. Any new investigations should be dictated by new symptoms.
All patients undergoing gastric resection should receive three monthly vitamin B12 injections.

There is no specific recommended interval between review appointments, but as the majority of relapses occur within the first three years, regular follow-up during this period would be appropriate.

Responsibility for long term follow up following resection should be offered back to the referring unit subject to patient agreement.

**UPPER GI SARCOMAS /GIST TUMOURS**

Some tumours of the oesophagus, stomach or small bowel, whilst in most cases carcinomas derived from the visceral mucosa, may be sarcomas of the muscularis layers of the bowel. GISTS and less commonly, leiomyosarcomas may affect these organs. If sarcoma is part of the differential diagnosis, the case will be referred to the sarcoma MDT for review of the diagnosis and management plan pre-operatively. In operable cases, surgery will be undertaken by the referring upper GI surgeon. In some cases, pre-operative Imatinib may enhance operability or be advised as a palliative measure in inoperable cases. These cases will be referred to Professor Woll from the sarcoma MDT. Mutational analysis will be requested for these cases to determine likely sensitivity to Imatinib or sunitinib.

More detailed description of management and diagnostic processes for sarcomas can be found in the North Trent Regional Sarcoma Protocol.
PANCREATIC CARCINOMA

Diagnosis

The presenting symptoms of pancreatic carcinoma include:

- Obstructive jaundice
- Upper abdominal pain
- Back pain
- Weight loss
- Acute pancreatitis
- May develop on a background of chronic pancreatitis

Investigations

Because most patients present with obstructive jaundice, an abdominal ultrasound scan is the most appropriate initial investigation. The findings suggestive of pancreatic carcinoma include a dilated bile duct down to the pancreatic head and a mass in the head of the pancreas.

CT scanning is essential for further assessment of the pancreas and the presence of absence of vessel encasement or metastatic disease. Segments of major vessels can be resected and re-anastomosed. Patients do well after vascular resection provided there is complete tumour clearance. Tumour described as “close to” or “abutting” the portal vein, SMV or other vessels may be resectable. If there is any doubt, the patient should be referred.

MRCP may give further information about the site and nature of any biliary obstruction and help differentiate stone disease. This is non-invasive and avoids the complications associated with diagnostic ERCP.

Cross sectional imaging should be performed before any biliary endoprosthesis is inserted because this will produce artefactual distortion on these scans.

Chest CT is essential to exclude metastatic disease. Blood count, liver function tests, renal function and coagulation screen should be performed.

To indicate unresectability metastases should be unequivocal. If there is doubt patients should be referred to the centre for further assessment. If there is clear evidence of metastatic disease a tissue diagnosis is required before the patient can undergo chemotherapy.

PET scanning is currently indicated when metastatic disease cannot be excluded and surgery is being considered.

Tissue diagnosis

In an unresectable case, a tissue diagnosis is required before stent insertion. This is best achieved locally by percutaneous liver or pancreatic biopsy. If a tissue diagnosis is not possible locally, the patient is referred to the centre for endoscopic ultrasound-guided fine needle aspiration, laparoscopic biopsy or specialist radiological biopsy.
Pre-operative stenting

Fit patients with favourable imaging and a bilirubin of under 300 may be suitable for surgery without preoperative biliary drainage and should be discussed urgently with the pancreatic specialist team.

No patient who is a possible candidate for resectional surgery should be stented before discussion with the specialist pancreatic team in Sheffield.

Patient Assessment

Assessment of the patient is essential before making a decision on any particular therapeutic option. Assessment of the cardiovascular system, respiratory function, renal function, hepatic function and nutritional status should be made. Any deficiencies in these systems should be corrected as far as possible before proceeding with any definitive treatment.

Fitness for Surgery

Major pancreatic resection used to be associated with a high mortality but due to better selection, anaesthesia, surgery and perioperative care, the mortality rate is now less than 5%. The operation is frequently done in those over the age of 75 and occasionally in 80 year olds. Although age itself is not a factor, fitness is important. To get through major pancreatic surgery, a patient will need to be self caring and if elderly they should be active, doing their own shopping and able to climb a flight of stairs without resting.

Curative treatment

Surgical Resection

Surgical resection is the only treatment option that has the potential to cure patients with pancreatic carcinoma. Patients considered for surgery should be free of metastatic disease and have a localised mass in the pancreas, which is not encasing the superior mesenteric artery or vein.

All ampullary carcinomas and localised cholangiocarcinomas of the bile duct should be considered for resection assuming there is no evidence of metastatic disease. Tumour size alone is not an absolute criteria for respectability and cystic tumours of large size can be resected with excellent prognosis.

Large tumour size should not exclude referral in the absence of metastatic disease.

Carcinoma of the body and tail of the pancreas is less common than carcinoma of the pancreatic head, frequently presents late and is often inoperable. Resection of carcinoma of the pancreatic head, Ampulla of Vater and low cholangiocarcinoma should be by pancreaticoduodenectomy. This should include excision of the gall bladder and common bile duct to the level of the common hepatic duct. Regional lymph nodes should be excised. Reconstruction techniques are numerous and are at the discretion of the surgeon in the light of his/her experience.

In potentially operable patients no attempt should be made to achieve a tissue diagnosis prior to referral (excluding endoscopic ampullary biopsy).
Adjuvant treatment

Following surgical resection 5FU and folinic acid will currently be offered as adjuvant treatment for pancreatic cancer.

Consideration of entry into clinical trials ESPAC 4 will be made. This is a phase III, international, randomised controlled trial which aims to compare gemcitabine against gemcitabine + capecitabine in 1080 patients with ductal adenocarcinoma.

**BILCAP** - Is a randomised clinical trial evaluating adjuvant chemotherapy with capecitabine compared to expectant treatment alone following surgery for biliary tract cancer. Due to the lack of evidence for adjuvant chemotherapy it can be only offered in the context of this trial.

Pathology

Specimens should be reported in line with the Royal College of Pathologists’ Minimum Dataset for Reporting Common Cancers (www.rcpath.org). Staging will be according to the TNM system. The style of presentation of histopathology data sets is at the discretion of each individual MDT.

Palliative treatment

The aim of palliative treatment in pancreatic carcinoma is to relieve jaundice and its associated symptoms and to control pain. Jaundice can be palliated by insertion of a biliary endoprosthesis. This can be carried out percutaneously (PTC) or at ERCP.

Rarely, if endoscopic or percutaneous methods of biliary decompression fail or are inappropriate, surgical by-pass may be considered. This should involve anastomosis of the bile duct to a loop of jejunum. The gall bladder is not a reliable route for biliary decompression.

Duodenal obstruction may occur in up to 20% of patients and this can be treated by a duodenal stent or gastroenterostomy.

Palliative chemotherapy may be offered to fit patients but alternatively may be held in reserve until the patient becomes symptomatic.

**TeloVac** - Is a randomised controlled Phase 3 study for patients with locally advanced or metastatic pancreatic cancer. It compares standard combination chemotherapy with gemcitabine and capecitabine with a vaccine treatment, GV1001. The GV1001 vaccine is active against the enzyme telomerase which has been shown to be over expressed in cancer cells, allowing them to divide indefinitely. Study arm one gives combination chemotherapy alone, whilst groups two and three also get GV1001 either after starting chemotherapy or at the time of starting chemotherapy.
Follow-up

Following their discharge from the ward, patients who have undergone a surgical resection for Hepato-Pancreatico-Biliary neoplasm, will require continued postoperative monitoring in the outpatient setting.

The aim of this is:

- To provide patients with ongoing support and information following their surgery.
- To detect the onset of ongoing complications (e.g. cholangitis, malnutrition, liver dysfunction and wound problems).
- To observe for signs and symptoms of disease recurrence.
- To collect and collate clinical outcome information.

The intentions of follow-up after palliative treatment (stenting) are to monitor the resolution of jaundice and to ensure that any other symptoms remain well controlled.

The follow-up interval for patients receiving palliative treatment should be dictated by their general condition and symptoms.

Responsibility for long term follow up following resection may be offered back to the referring unit subject to patient agreement.
ONCOLOGY GUIDELINES

Initial referral should be made to the oncologist serving the local MDT who will then arrange for the appropriate treatment. This may involve referral to another oncologist depending upon the tumour type.

*NB Current clinical trial protocols are all available in the pelvic/GI team folder of the WPH research shared drive*

Oesophageal Cancer

Resectable disease

**Standard Therapy**
2 cycles of neoadjuvant cisplatin/5FU chemotherapy (1)

Consider perioperative chemotherapy with ECX (3 cycles pre and 3 cycles post op) for patients with lower oesophageal or OGJ adenocarcinoma (2)

**Clinical Trials**
ST03- perioperative chemotherapy with ECX +/- Bevacizumab
For lower oesophageal or OGJ adenocarcinoma

Chemoradiotherapy

**Standard Therapy**
See radiotherapy handbook for patient selection
Cisplatin/5FU chemotherapy given in weeks 1 and 5 of radiotherapy (3)
Consider giving 2 cycles of cisplatin/5FU prior to radiotherapy, especially if significant difficulty swallowing

**Clinical Trials**
No current trials

Locally advanced/metastatic disease

**Standard Therapy**
Squamous cell carcinoma- cisplatin/5FU
Adenocarcinoma- EOX (4)
ECF
ECX

Consider local therapies eg radiotherapy/stent for local symptoms

**Clinical Trials**
No current trials in palliative setting
References


Gastric Cancer

Resectable disease

Standard Therapy
Perioperative chemotherapy with ECX or ECF (3 cycles pre and 3 cycles post op) (1)

Clinical Trials
ST03- perioperative chemotherapy with ECX +/- Bevacizumab

Locally advanced/metastatic disease

Standard Therapy
First line chemotherapy
Ask pathology to check her-2 status of biopsy (immunohistochemistry)

If less than her-2 3+
EOX (2)
ECF
ECX

If her-2 3+
Cisplatin/capecitabine + herceptin (3)
OR cisplatin/5FU + herceptin

Second line chemotherapy
Depends of progression free survival
<6 months- best supportive care
6-12 months- consider single agent docetaxel if PS 0/1 (4)
>12 months- consider retreatment with EOX etc

Consider local therapies eg radiotherapy/stent for local symptoms

Clinical Trials
No current trials in palliative setting

References

2. Cunningham et al. Capecitabine and Oxaliplatin for Advanced Esophagogastric Cancer. NEJM 2008; 358: 36-46


Pancreatic Cancer

Resectable disease
Consider patients with R0/R1 resections who recover to performance status 0/1 within 12 weeks of surgery for adjuvant chemotherapy.

Standard Therapy
Bolus 5FU/folinic acid (1)

Clinical Trials
ESPAC 4- gemcitabine vs gemcitabine + capecitabine

Locally advanced/metastatic disease

Standard Therapy
First line chemotherapy
Gemcitabine (2)

Chemoradiotherapy
Consider for patients with PS 0/1 who have response/stable disease after 2 cycles of gemcitabine (3). See radiotherapy handbook for further details.

Second line chemotherapy
Consider for patients with good PS on progression after first line therapy
Oxaliplain/5FU (4)

Clinical Trials
VIP- gemcitabine +/- vandetanib

Cholangiocarcinoma
Resectable disease

Standard Therapy
No chemotherapy

Clinical Trials
BILCAP- observation vs capecitabine

Locally advanced/metastatic disease

Standard Therapy
Gemcitabine/cisplatin (1) - PS 0/1, adequate renal function
Gemcitabine alone- others

Clinical Trials
No current trials

References

Hepatocellular carcinoma

Local disease
Consider- surgery
Ablation
Embolisation

Locally advanced/metastatic disease

Standard Therapy
Consider for patients with Child’s Pugh A liver disease
Sorafenib (available via Cancer Drugs Fund) (1)

Clinical Trials
No current trials

References
SUPPORTIVE & PALLIATIVE CARE

Supportive and palliative care are cross-cutting issues that affect all cancer patients, at all stages from pre-diagnosis to survivorship, or death. The NICE guidance on supportive and palliative care for adults with cancer (2004) gives definitions of these two terms and tries to explain their distinctions and overlaps. However, there is still considerable confusion and unclear thinking about these concepts, with the important consequence that many patients are being referred inappropriately, too late or not at all to specialist services.

The Sheffield Model for Supportive Care clarifies this area and should be seen as the model which applies to North Trent Cancer Network (Ahmedzai, Walsh, Seminars in Oncology, 2001.)

In essence, supportive care is a wide range of specialist services which work as a 'virtual team' to help the patient (and family) cope with the effects of disease, of treatment-related side-effects (acute and long-term) and with the psychosocial and rehabilitation needs for both long-term survivors with cancer and those who are progressing.

Palliative care is a somewhat more restricted range of services, often configured as an actual team, which focuses on symptoms, psychological, social and spiritual issues for patients and their families, when the disease is progressive and will likely lead to death within 6-12 months.

In many acute settings, palliative care teams provide both supportive and end of life care; in community and hospices, they concentrate almost exclusively on end of life care. Specialists who contribute to supportive care for cancer patients, e.g. dieticians, SALT, other AHPs, pain clinic staff, are scattered across a hospital and are often not coordinated. They provide only limited input in community and hospices. It is ideal for cancer MDTs to have their own dedicated supportive care professionals, or at least dedicated sessions from a trust service.

All patients, regardless of the stage of disease or estimated prognosis, are candidates for supportive care and all those who are nearing the end of life are candidates for palliative care. The difficulty arises in identifying which patients need the different specialists inputs of supportive care at which stage. In North Trent we have developed a screening questionnaire – SPARC, which provides a ‘holistic’ assessment of a patient’s needs for symptom control, psychological, social and spiritual issues as well as needs for information, help with daily living, making plans, and other areas. It is recommended that this instrument is used by clinics and wards to identify patients who need supportive and palliative care. An alternative tool is the ‘Distress Thermometer’ – the North Trent Supportive and Palliative Care Group is producing guidelines to advise MDTs to choose one or other of these tools, as well as other more specific questionnaires for complex pain, psychological distress, etc.

Most acute settings in North Trent have a team of palliative care nurse specialists. Only 4 out of the 5 localities have consultant-level input into these teams. Furthermore, only 3 of out 5 localities have consultants with regular sessions in hospices.

The Sheffield/Chesterfield/Rotherham localities have a 24/7 medical on-call service with first-on registrars (covering Sheffield and Chesterfield) and second-on consultants (covering all three localities). The consultants also provide an informal second-on call service for the specialist palliative care teams in Barnsley and Doncaster/Bassetlaw.
Ideally a member of each trust palliative care team should attend the Upper GI cancer MDT. However there are currently insufficient staff to support this. Moreover, MDTs are not always configured to pick up and discuss supportive and palliative care issues within the normal agenda. It is recommended that an alternative arrangement is made to cover this by:

a. Routine use of a supportive care screening tool, e.g. SPARC or Distress Thermometer by all clinicians in both in-patient and out-patient settings.

b. Clearly identified routes of referral between the Head and Neck MDT, usually via the CNS but also via medical staff, to a named person in the local palliative care MDT.

c. The ability to timetable discussion of complex supportive or palliative care issues for specific patients in the MDT meeting, e.g. to discuss palliative surgery, difficult pain or respiratory management, transfer to hospice or other settings.

It is recommended that advance care planning for all patients is started as soon as feasible after the diagnosis of an incurable cancer, including the patient’s preferences for place of care in the terminal stage and the use or rejection of interventional medical support, e.g. artificial hydration, CPR.

**SUPPORTIVE CARE**

**Key Worker**

All patients who are diagnosed with Upper GI cancer (in a cancer unit or centre) will be referred for specialist nursing support assessment as soon as possible following the cancer diagnosis. The patient will be seen by the specialist nurse and ongoing care and support planned and delivered.

In instances where patients move between the cancer unit and cancer centre they will retain the right to chose to access support from either one or both key workers. The key workers from the locality and the cancer centre will communicate patient care issues with each other as appropriate.

**TEENAGE AND YOUNG ADULT REFERRAL POLICY**

In January 2009 specific referral pathways were developed for teenagers (16-18 years) and young adults (19 -24 years) into the TYA MDT. The Upper GI NSSG has agreed age appropriate referral into these pathways. These documents were updated and approved by the NSSG on 6.7.12 and are available via the NTCN website.
IMAGING GUIDELINES

Oesophageal cancer

Area to be examined: Chest & abdomen

Modality: CT

Technique: Negative oral contrast (e.g. water)
 IV contrast (arterial phase for chest, portal venous phase for abdomen).
 Slice thickness 5mm or less is preferable when scanner technology allows

Gastric cancer

Area to be examined: Chest, abdomen and pelvis

Modality: CT

Technique: Negative oral contrast (e.g. water)
 IV contrast (arterial phase for chest, portal venous phase for abdomen and pelvis)
 Slice thickness 5mm or less is preferable when scanner technology allows

Pancreatic cancer

Area to be examined: Abdomen

Modality: CT

Technique: Negative oral contrast (e.g. water)
 Pre-IV contrast scan from dome of diaphragm to iliac crest
 Slice thickness 5mm or less
 Post-contrast thin slice scan (3mm of less) through the pancreas, followed by portal venous phase post contrast scan from dome of diaphragm to iliac crest, slice thickness 5mm of less
 Recommendations for slice thickness can be applied if scanner technology applies.

 MRI scanning (+/- MRCP) for problem solving
CRITERIA FOR PET SCANNING

Under NORCOM arrangements FDG PET CT imaging may be performed:

Oesophageal/Gastro-oesophageal junction cancer

1. Prior to radical treatment of Oesophageal/Gastro-oesophageal junction cancer where CT or other imaging has failed to identify metastatic disease that would preclude radical treatment or is equivocal for distant metastatic disease, and the patient is fit for radical treatment.

2. Following neoadjuvant chemotherapy where there is a suspicion that there has been disease progression and post chemotherapy CT scanning is equivocal for distant metastases in a patient who remains fit for surgery.

3. Assessment of suspected disease recurrence in previously treated patients where CT or other imaging is equivocal.

Pancreatic Cancer

1. Prior to resection of pancreatic cancer (i.e. adenocarcinoma of the pancreas) or cholangiocarcinoma where CT or other imaging is equivocal for metastatic disease and the patient is fit for resection.

All patients require full central MDT discussion. All imaging should be reviewed by an experienced consultant upper GI radiologist.

Decisions on surgery, chemotherapy, radiotherapy and likely changes to patient outcome should be made by experienced consultant upper GI surgeons, oncologists and radiotherapists.

All requests must be fully completed by a consultant detailing indication, site of suspected disease and predicted management change depending on the PET outcome.

The final decision to perform a PET scan rests with the ARSAC certificate holder for PET.

PET Guidelines (STH) ver 2.0.1 May 2008