Metastatic Liver Resection Service

Update Report December 2016

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Report Author: Emmanuel Huguet - Consultant Hepato-Pancreato-Biliary and Transplant Surgeon, Cambridge University Hospitals NHS Foundation Trust

Report Prepared by: Daniel Eve – Service Specialist, NHS England Specialised Commissioning. East of England Hub Team

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1 Contents

1 Introduction

1.1 Purpose

The purpose of this report is to provide feedback on the performance of the Liver Metastatic Resection Service provided by Cambridge University Hospitals NHS Foundation Trust (CUH) following centralisation of this service to a single surgical centre.

1.2 Context

The Colorectal Improving Outcomes Guidance (IOG) states that the liver metastatic surgical resection service must have a population base of at least 2 million, with all surgery taking place on the site of the trust hosting the Specialist Multi-Disciplinary Team (MDT). A surgical resection service provides curative treatment for people with liver metastases. Since 1st September 2015 NHS England has commissioned a centralised service from CUH that has increased the access to this surgery for the population within the Anglia Cancer Network (ACN).

A service treating a higher number of patients ensures that the team members develop and maintain skills and the team as a whole becomes an expert provider within a service that has other key clinical support on site. Together these elements support improved outcomes for this group of people.

1.3 Background

In 2011 the East of England Specialised Commissioning Group (SCG) reviewed each of the three Cancer Networks in the east of England against the required IOG population. The Essex Cancer Network has a pathway to a single centre in London and the Mount Vernon Cancer Network (Hertfordshire and South Bedfordshire) a single pathway to the Royal Free in London. Both of these centres were compliant with the 2 million population criteria and service configuration.

There were four referral pathways for the ACN population, with 2 services within the Network – Norfolk and Norwich University Hospital NHS Foundation Trust (NNUH) and CUH. The Ipswich Hospital had recently stopped their liver resection surgery. Analysis of the activity suggested that the number of people undergoing liver resection for colorectal cancer metastases in the Anglia Network region was lower than the national average.

NHS England as the responsible commissioner for this service is only able to commission from an IOG compliant provider that meets the national specification for this service. The remit of the centralisation project was to oversee the identification and the implementation of a single specialist surgical centre for liver metastatic cancer within the Anglia Cancer Network to ensure compliance with the IOG and national service specification. The project comprised of the identification of a single surgical site and then the implementation of centralisation of the service.

In response to a clinical challenge raised by some clinicians involved in the existing service provision concerning the appropriateness of the population based IOG model, further advice was sought. The National Cancer Action Team agreed to

conduct a review in November 2011. The review, with support from expert independent clinicians, explored the appropriateness of the model. The SCG received the review report from the National Cancer Action Team in August 2012.The report endorsed the proposed IOG reconfiguration of a single surgical centre serving the ACN.

Once the implementation phase of the single centre model was completed it was agreed that the service would report after the first year of service delivery against the Key Service Outcomes that form part of the ACN Liver Metastatic Service Criteria document.

2 Main Report

The Trust has achieved a number of key outputs and indicators that are shared below:

2.1 Service Achievements

1) Commencement of a new all day theatre list specifically allocated to support the management of patients with liver metastases.
2) Appointment of a further HPB Liver Metastatic Consultant to support the service.
3) Purchase of a new state of the art Radiofrequency Ablation (RFA) generator in collaboration with interventional radiology.
4) Funding agreed for the purchase of 3 state of the art Cavitron Ultrasonic Surgical Aspirator (CUSA) machines and 3 ultrasound machines for intraoperative assessment of liver metastases including laparoscopic ultrasound probes.
5) Development of very good rapport and working relationships established with all referring hospital clinicians.

2.2 Clinical Activity and Outcomes

2.2.1 Referrals

100% of all 186 patients referred to the CUH service have been reviewed at the specialist MDT. This KPI requires that all patients matching the specialist MDT referral criteria are referred. Assessing whether it is being met will require audit on the part of all the colorectal teams from each of the referring centres. Commissioners will ensure that the CUH team are attending local colorectal MDT meetings to make sure that the referral criteria are being adhered to. Commissioners will also ensure that CUH coordinates the audit that should include:

- Review of post colorectal surgery surveillance arrangements for a defined cohort of patients having undergone colorectal cancer resection, in order to assess whether all patients are being offered the current recommended surveillance; (2 CT scans within 3 years of colorectal cancer resection)

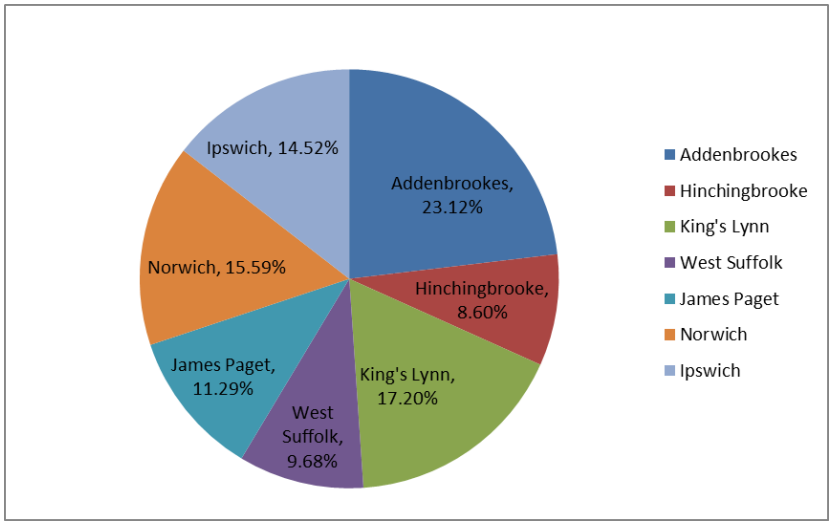
- Review of all patients with identified colorectal liver metastases to ensure they were referred;

- CUH will need to work with the referring teams to ensure that these audits are carried out, as they have access to the surveillance arrangements for local patients who have undergone colorectal cancer resections. Such an audit could be supported by the Clinical Network.

2.2.2 Percentage of Referrals by Trust

Chart 1 shows the percentage of referrals by provider.

Chart 1



2.2.3 Treatment Plan Timelines

183 of all 186 (98%) patients had an agreed a treatment plan within two weeks of referral. On root cause analysis one patient breached due to a delay in images being sent by the referring centre. One patient was being investigated under the colorectal service and discussion was delayed until after the investigations had been completed. A further patient was treated surgically under colorectal prior to final discussion at the liver metastases MDT.

2.2.4 Activity Levels

Table 1 shows the total number of patients referred to the liver metastases MDT by referring centre, with outcomes. Chart 2 shows the modality of given treatment as a percentage.

Table 1

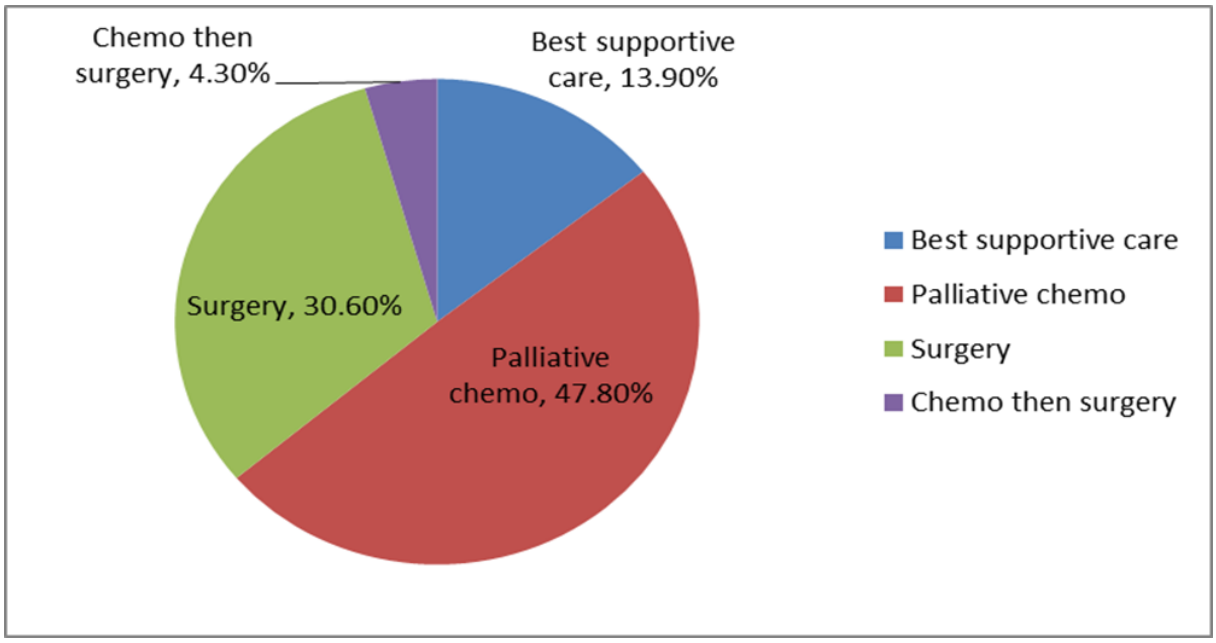
Provider	Total	BSC	PC	Surgery	Lap	RFA	Chemo + Surg	30 Day Mortality
Addenbrookes	43	6	21	14	1	2	1	0
Hinchingbrooke	16	0	8	5	2	1	3	0
Kings Lynn	32	10	14	7	0	0	0	0
West Suffolk	18	2	9	5	0	1	0	0
James Paget	21	5	12	3	0	1	0	0
Norwich	29	1	9	16	2	4	3	0
Ipswich	27	2	16	7	0	1	1	0
Totals	**186**	**26**	**89**	**57**	**5**	**10**	**8**	**0**

Key:

BSC - Best Supportive Care
PC - Palliative Chemotherapy
RFA - Radiofrequency Ablation
Chem + Surg - Chemotherapy then Surgery
Lap - Surgery done by Laparoscopy

The 5 laparoscopic liver resections are included within the total number of surgeries. Of the 10 RFA's, 9 are standalone treatments and 1 was carried out in combination with a resection.

Chart 2



2.2.5 Key Worker Assignment

100% of patients accepted by CUH for treatment for colorectal liver metastases at the centre had a nominated key worker documented in their notes.

For patients that are referred back to their original centre for chemotherapy or palliative care the local centre provide key worker support.

2.2.6 Surgery

Laparoscopic liver surgery was the intentional modality of treatment planned in over 10% of patients undergoing liver resection. However the overall performance falls slightly below this due to conversion to open procedures. Internationally, the reported rate of conversion from laparoscopic to open liver surgery is 20%. Our practice is consistent with this; hence the actual laparoscopic rate in year 1 was 7.7%.

2.2.7 Timeliness of Surgery

Over the last 18 months no patients have been cancelled due to a lack of, or inability to, access theatre or ITU facilities.

2.2.8 30 Day Mortality

On review of the last 12months of data there were no patients who died within 30 days of treatment. The services performance currently stands at 0% for 30 data Mortality.

2.2.9 Re-Admission Rates

Data from all exemplar liver surgery units all over the world shows that such surgery is associated with an approximate 20% significant complication rate. This will inevitably result in a percentage of readmissions.
Only 1 of 186 (0.5%) patients undergoing surgery was readmitted to CUH within 30 days due to complications post- liver resection surgery.

2.2.10 Recurrent Disease

There are currently no patients who have presented with recurrent disease in year 1. The current follow up time is too short to analyse this. However longer term, outcome and survival will be monitored and analysed with the collaboration of the cancer registry.

2.2.11 Cumulative Annual Survival Rates

Survival rates are published by centre externally and available via Eastern Cancer Registration and Information Centre (ECRIC) and Eastern Region Public Health Observatory (ERPHO) www.erpho.org.uk.

2.3 Cancer Outcomes

2.3.1 Cancer Waiting Times

Of the 187 patients referred, 97 (51%) were on a 31 day cancer pathway. Three breaches occurred (5%), two whilst waiting for surgery and one whilst waiting for RFA. There have been no 62 day upgrades for central liver metastases over the last 12 months.

2.3.2 Cancer Waiting Times Breaches

All cancer breaches are discussed as part of the Trust's cancer Root Cause Analysis process which includes monthly meetings to look at each breach individually and identify the key learning points for clinical teams. These key learning points are then implemented by the individual teams as part of their regular service review.

2.4 Service user Experience

2.4.1 Patient Survey

The service is committed to studying this and has produced a patient satisfaction survey modelled on a previously validated survey used to assess patient satisfaction in the context of pancreatic cancer centralisation.

The intention of the Trust is to run the first patient satisfaction survey during the period January-June 2017. This would sample patient opinion after sufficient time has elapsed since inception, and therefore provide a representative reflection of the

new service rather than its initial state immediately following start-up. The 6 month survey time period would also provide a significant sample size.

3 Conclusion

After the first year of operation the Metastatic Liver Resection Service is meeting most of the Key Performance Measures that were agreed at the outset. The Clinical Network will be engaged by commissioners following the publication of this report to consider a wider audit of referrals to the Liver Resection Service to ensure that all patients matching the specialist MDT referral criteria are being referred to the specialist MDT. As stated above, a wider overview across the network is required to determine whether this key measure is being met.

Although the service does not meet the 10% measure for proportion of surgery undertaken by laparoscopy, the service is operating in line with international benchmarks for conversion to open procedures. Therefore a figure of 7.7% for Laparoscopy has to be considered in this context. Laparoscopy is a relatively new and challenging procedure for liver metastases and the service has only been operating for 1 year so far.

The Trust was concerned that the 100% standard for readmissions be considered in the context of the overall accepted complication rate for this type of surgery. Although the measure has not been met the readmission rate is just 0.5%.

Cancer waiting times for Liver Metastases were within acceptable levels and were not due to delays caused by referrals to the Liver resection specialist MDT.

The service has only been operating for one year and therefore it may be too early to effectively assess measures such as the 30 day mortality, recurrent disease and cumulative annual survival rates. Commissioners expect the patient survey to be completed during 2017 and will ensure a report of the survey is available.

4 Appendices

4.1 Glossary

Cancer	Cancer is a disease where body cells grow and divide uncontrollably. They can spread into nearby tissues, and may spread to other parts of the body through the bloodstream or lymphatic system. Cancerous tumours are called malignant.
Cancer Centre	Cancer centres are hospitals where specialist teams treat a large number of people with cancer, particularly people with less common types of cancer or who need complex cancer tests or treatments.
Cancer Networks	Cancer networks were established in the UK in 2000. Each network consisted of a number of NHS organisations working together to plan and provide services for people with cancer in their area. A network includes hospitals, health centres, hospices and social care providers. In April 2013 the networks were incorporated into Strategic Clinical Networks as part of an NHS reorganisation.
Colorectal Cancer	Also known as bowel cancer, it is the development of cancer from the colon or rectum (parts of the large intestine). It is due to the abnormal growth of cells that have the ability to invade or spread to other parts of the body.
CT Scans	CT scan stands for computerised tomography scan. It is a scan that makes a picture of the body by taking a series of X-rays. It used to be called a CAT scan (computerised Axial tomography).
Interventional Radiology	A sub speciality of radiology providing minimally invasive image guided diagnosis and treatment of diseases in every organ system
IOG	Improving Outcomes Guidance
KPI	Key Performance Indicators
MDT	Multi-Disciplinary team
Metastases	The spread of cancer cells to new areas of the body (often by way of the lymph system or bloodstream). A metastatic cancer is one which has spread from the primary site of origin into different areas of the body.
Radiofrequency Ablation	A procedure in which part of the electrical conduction system of the heart, tumour or dysfunctional tissue is ablated using the heat generated from medium frequency alternating current.