



Liver and  
Pancreatic R&D  
**CANCER CHARITY**  
Results through research

**STOP PRESS!!**

Look out for our collaboration with Southampton City Council to light their Civic Centre purple from 14th November to raise awareness of Pancreatic Cancer

## “Making a DIFFERENCE” Newsletter of LAPR&D Winter 2016

Welcome to the very first issue of our six-monthly newsletter in which we share some of our progress and achievements and highlight how you are helping to beat Liver and Pancreatic Cancers.

We are grateful to have such wonderful supporters of our charity, some of whom go to great lengths to raise money – like cycling across Europe, taking the three Peaks challenge, or jumping out of a plane.



I hope you enjoy this issue.  
Please provide us with any feedback or topics you would like covered in future issues.

Mo Abu Hilal, Founding Member of LAPR&D,  
Liver and Pancreatic surgeon at Southampton University Hospital.

### FUNDING FOR THE FUTURE

The Liver and Pancreatic Cancer Charity is proud to be supporting research staff at the Southampton University Hospital

#### Expanding the use of laparoscopic (keyhole) resection techniques

##### Dr. Mark Halls

Mark works at the University Hospital Southampton under the supervision of Mo Abu Hilal, where they have been perfecting laparoscopic liver resections. This less invasive surgical approach allows faster and easier recovery.

Dr. Mark Halls presented his paper on “Aggressive laparoscopic liver resections for colorectal metastases” in Porto, Portugal at the HEBIPA (Hepatobiliopancreatic) Meeting 2016, organised by the Central Hospital of Porto.

*Mark says “we were delighted to be invited to present our experience as a leading european centre in keyhole surgery for liver and pancreatic cancer. Southampton is one of the international pioneers in this field and we are very proud to be recognised and involved in a number of international meetings and events which will extend knowledge and experience to many other centres in the UK and around the world to help all patients with this disease to benefit from the mini-invasive approach”*

#### Growing liver stem cells outside the body

LAPR&D is delighted to have been able to fund two fourth year medical student researchers during 2015/16.

The research project on liver stem cells, carried out at Southampton University Hospital, involves harvesting

healthy liver stem cells from patients undergoing surgery to be grown outside of the body. The aim is to improve outcomes for patients suffering from liver and pancreatic cancer by identifying and developing future possible treatments. In particular, different forms of chemotherapy will also be tested outside the body thereby limiting risks to patients.

The research began with animal samples and has now progressed to human cells with 90 samples taken from 103 patients who have liver disease. The research is now concentrating on how to sustain human liver cells outside of the body in the laboratory.



**15,000 patients affected by Pancreatic cancer in the UK every year**  
**Only 4% of patients survive pancreatic Cancer beyond 5 years**  
**Pancreatic Cancer is the 5th biggest cancer killer worldwide**  
**It receives just 1% of overall cancer research funding in the UK**

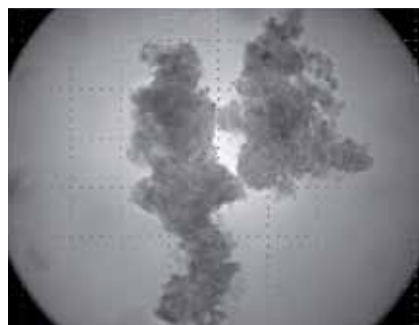
**5,100 patients affected by Liver cancer in the UK each year**  
**Survival rate very dependant on age**  
**Liver Cancer is the 11th biggest cancer killer**

## Growing liver stem cells outside the body (cont.)

The researchers have studied what makes the cells grow and what happens to the DNA/nucleus of the cell. They found that exposure of liver cells to certain agents, such as hormones, causes generation of certain nucleic acids (RNA) which stimulate the production of protein and cell growth. RNA was extracted from the cells and alteration of the gene structure was tested using different laboratory methods to monitor the increase in multiplication of nucleic material (DNA). The team found that factors under study had a positive effect on genes involved in the growth processes of liver cells.

Our researchers have conducted 97 experiments to date and have confirmed that adding an epidermal growth factor (EGF) and small protein (VIP, Vaso-Intestinal peptide) improves the survival rate of the liver cells and stem cells have been isolated. This is important as they are essential for the future production of the liver.

The results are to be published in Faculty of Medical Annual Conference and Hepatology (Journal of AASLD, American Association for the Study of Liver Diseases)



Cells aggregate in the AFPB system

\* AFPB system = Acoustic-fluidic perfusion bioreactor - These aim to assist in the development of new tissue and to provide appropriate stimuli to the cultured cells.

We have come to the end of the first year of LAPR&D research into stem cells. As a result of this tremendous progress we have extended our research programme for another year. The next stage of this research will study how to transform stem cells into a functioning liver; grow the liver as a 3D functioning organ where the cells aggregate together and stay together and to inject human stem cells into the liver of a live mouse to see if they survive/grow.

## Working together with Mylan Medical

We are very pleased to be working with the makers of Creon (pancreatic enzymes). The objective of this important research project is to understand the role of pancreatic enzymes in patients undergoing pancreatic major surgery and identifies ways to improve the tolerance to this drug.

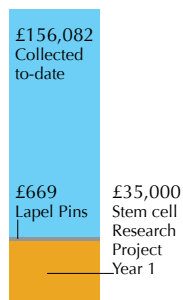
## Super Kelvin testimonial



In February 2016, we appointed Kelvin Davis, former Southampton Football Club Captain and goalkeeper, as our Patron and Chairman after the sad death of our previous Chairman and key founding member John Burke.

Kelvin closed 10 years of a successful professional football career with a Testimonial match in March 2016 with some of the proceeds coming to the charity.

## Where does the money raised go?



### Typical costs

- £40,000 funds a research post for 12 months
- £5,000 funds all the consumables for a student researcher for 12 months
- £1,000 funds the charity's PR material for 12 months
- £154.85 funds a researcher for a day

## Take up the challenge

Our supporters have done some amazing things over the past year to pass through the £150,000 mark to support the work of the charity including:

- Kevin Mearns cycled 318 miles from the famous landmarks of Paris to quiet lakeside Geneva
- Lyburn Farm in the New Forest chose our charity to fund raise for this year after being approached by charity supporter Pauline Stone. A series of farm tours and suppers raised £1,620
- Our annual Charity Dinner in October 2016 at the Ageas Bowl raised £35,000
- Mark Halls, a surgical registrar at the University Hospital Southampton, completed the Zurich Ironman in a time of 13 hours 14 minutes 58 seconds raising over £1,100

## We need you - how you can help

- sign up to our e-newsletter by contacting [info@lapcancercharity.com](mailto:info@lapcancercharity.com)
- Like our [Facebook page @LAPRANDD](#)
- Attend one of our regular fun and interesting events – see the Events Calendar on our website or Facebook page
- If you have an idea for an event; want to offer your skills to our volunteer group or are a business and would like to sponsor us or support us in any way please contact: [info@lapcancercharity.com](mailto:info@lapcancercharity.com) or telephone: 07773 338629