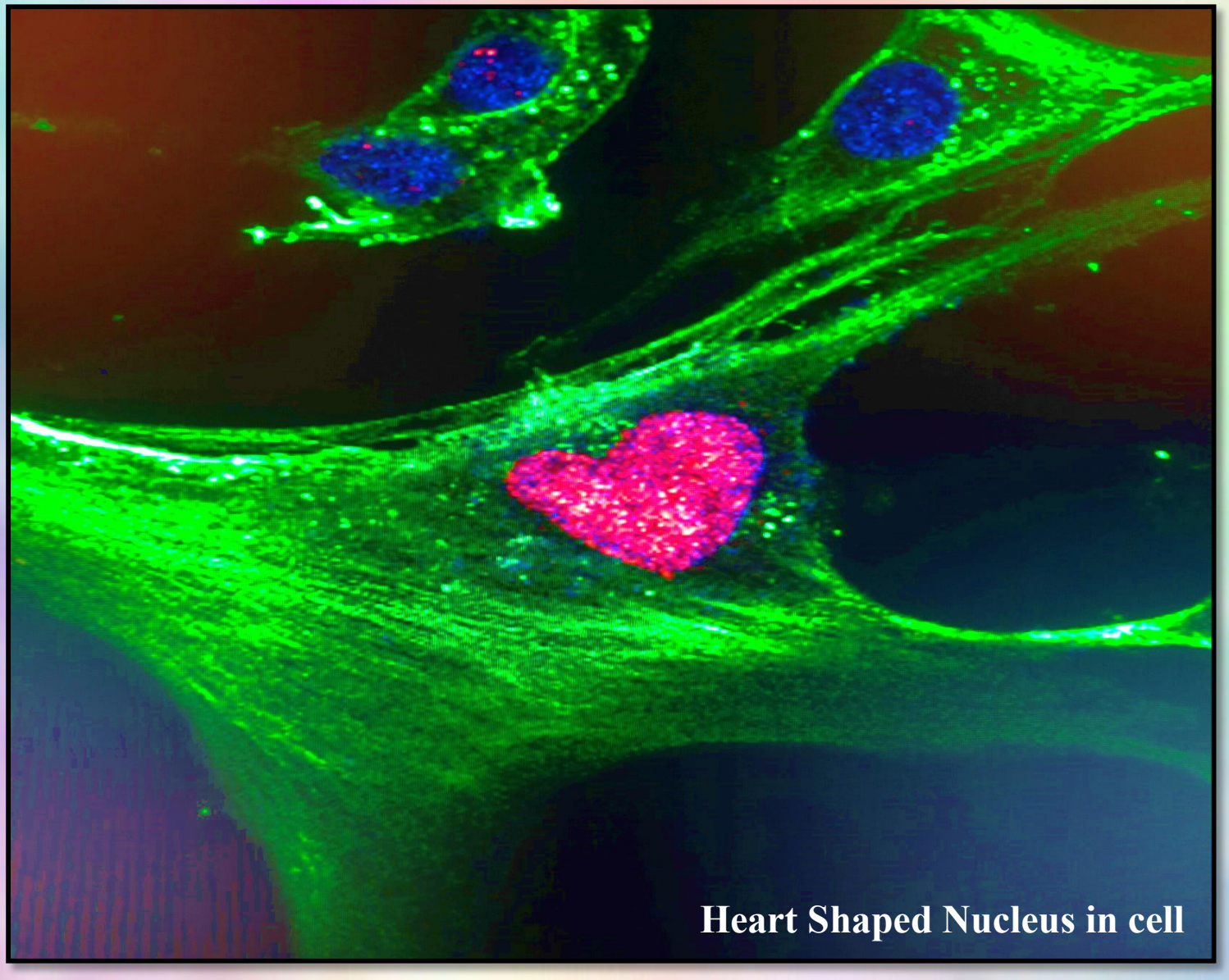
NEWSLETTER

DUTT AND SHILPEE LAB



Heart Shaped Nucleus in cell

Courtesy: - Tejashree Maddhalkar

The Indian EXPRESS
DAILY FROM AHMEDABAD CHANDIGARH DELHI JAIPUR KOLKATA LUCKNOW MUMBAI NAGPUR PUNE VADODARA
JOURNALISM OF COURAGE

Novel Test for Tongue Cancer

Tata Memorial team finds protein that can help detect metastasis early and save patients from excision surgery and death

Anuradha Mascarenhas

CUTTING EDGE

LOW ACCURACY in detecting its spread in the early stages is one of the factors that contributes to the high incidence of tongue cancer in India. About 30 per cent of tongue cancer patients develop occult (hidden) metastases or a subclinical disease spread to surrounding lymph nodes. This reduces their chances of survival.

Researchers from the Advanced Centre for Treatment Research and Education in Cancer, Tata Memorial Centre (TMC), have been able to identify a predictive biomarker for early stage disease. They found that a protein called Matrix metalloproteinase-10 (MMP10) is over-expressed in primary tongue tumours of patients with lymph node metastases. This means that measuring MMP10 expression could be used to predict the likelihood of lymph node metastases in these patients. The study findings have been published recently in *Communications Biology*, a *Nature* publications group journal.

"We propose that screening for the expression of MMP10 could help as a prognostic biomarker in the prediction of lymph node metastases in tongue cancer, sparing 70 to 80 per cent of patients from morbid neck dissection and surgical removal of lymph nodes. These findings may enhance treatment and prognosis," says Dr Amit Dutt, principal investigator, ACTREC Tata Memorial Centre and lead researcher of the study.

Researchers at the Tata Memorial Centre in Mumbai are in the process of planning a clinical trial to validate the findings. "The leads from this study can help the treating team to decide on the best course of therapy," says Dr Sudhir Nair, a senior oral cancer surgeon at TMC and lead researcher of the study. "An early detection of MMP10 in oral samples, such as saliva or oral mucosa, could indicate the presence of a disease or condition in its early stages. If validated this can be used as part of an oral screening programme to help detect diseases or conditions early on, when they are most likely to be treatable," he adds.

Currently, treatment options for oral cancer may include surgery, radiation therapy, chemotherapy and targetted therapy. "Tongue cancer is a type of oral cancer that forms in the front two-thirds of the tongue. It is relatively common, accounting for about 47 per cent of all oral cancer cases in young people," Dr Dutt says. This surgical rem of lymph nodes is linked with severe morb ity and is unnecessary in about 70 per cen patients without nodal metastases, say searchers and hence underline the imp tance of precise prognostic indicators to p dict the probability of metastases.

Currently, the risk for nodal metastases assessed by physical examination such as siz location, histological type, lymphovascul invasion, severity of the initial tumour as we as imaging tests like CT or MRI scans. Bu these techniques are unreliable. "The MMP1 expression accurately predicts lymph nod metastases in 86 per cent of node-positiv patients," says Bhasker Dharavath, first au thor of the study.

He adds that researchers have identified microRNA, miR-944, that negatively affec the levels of MMP10 by directly binding to t regulatory region of the gene and interferi with its molecular processing.

Using biochemical and cell-based r search, the group also showed that low leve of MMP10 protein or higher expression le els of miR-944 inhibit the proliferation, m gration and dissemination of tongue canc cells. Dr Ashwin Butle constructed a compl orthotopic tongue cancer mouse model validate the findings.

GETTY IMAGES

IN FACTS AND FIGURES

Tongue cancer is relatively common, accounting for about 47 per cent of all oral cancer cases in young people

Welcome to Our Family

Good Bye AND Good LucK

Happy Birthday

Captured by: - Amartya

Mystic way……..

Captured by: - Madhura

असतोमा सद्गमय ।
तमसोमा ज्योतिर् गमय ।
मृत्योर्मामृतं गमय ॥

From a non-being to a true being,
From ignorance to wisdom,
From death to immortality.
~The Upanishads

In Conversation with..

General Facts

1. By birth, my name is : *Siddhi Rajpurkar*
2. Pals call me : *Siddhi or Sid*
3. I was born on : *6th February, 1999*
4. My childhood was spent at : *Mumbai*

Personal Life

1. *Can you describe any one* ever-*lasting memory about your childhood?*

If I had to choose one, it would be going – out to the beach in my native and collecting unique rocks and seashells with my brother.

2. *How was your college life? And, what did you enjoy the most?*

My college life was a mix of emotions but mostly exciting and fun. I enjoyed being part of various clubs and going out to represent the college in many activities and volunteering for the same.

3. *As a child/teenager, what did you aspire to become in life? Any reasons associated with it?*

As a child I never stuck on one thing one day I wanted to be a lawyer, next day a doctor.

4. *Would you like to state a person or an event that has inspired/influenced your life?*

Honestly my family has been a constant source of inspiration and support. They have always tried to be understanding about my thoughts and always up to give motivation and advise me to the right direction.

5. *Do you have any hobbies or passion apart from research?*

I love reading, dancing, swimming and learn new languages as a hobby. Say ***Annyeong*** (**Hi** in *Korean*) to me next time you meet me.

6. *Would you like to share any ever-lasting memory associated with the lab*

Since I am new there is not really any ever – lasting memory, but all the lab members in the lab are honestly very supportive and helpful to me in every sense. Every conversation I learn something new and its very inspiring to see how everyone is dedicated to their work.

Science and Philosophy

1. *In your opinion, what is research?*

Research for me is like asking a question for which you don't know the answer of and then trying to find it.

2. *Why did you choose to apply in Dr. Amit Dutt's laboratory?*

When I was in my previous lab, I came across the Dutt lab's webpage and reading about the research done in the lab got me curious.

3. *What has kept you motivated to pursue research?*

Research has always been my interest but it is my brother who keeps me motivated to uptake research. He is always honest about the hardship but also excited to discuss the work being done.

4. *What have been the most (a) exciting and (b) challenging scientific question you have had the opportunity to address?*

It was always exciting for me to understand the role of various chromosomal aberrations and trying to figure out the cause and impact of them. I feel like there are lot of challenging questions out there being addressed just not came across them yet.

5. *Can you describe in brief your experiences of your tenure? And, what are your future plans?*

My tenure itself has been quite brief to have any major experiences but I think the conversations and discussions with the lab members have been a pivotal role of it. My future plans to have a career in academia and pursue Ph.D. abroad.