

## Metastasis, the worst nightmare of cancer

There are many kinds of cancer, but they all start because of an alteration in the genome which causes abnormal cell division. Then, cells uncontrollably multiply and they form a mass of tissue called a tumour.

Scientists study the role of chromosomal mutations in the development of cancers, the checkpoints that control the cell-division cycle, the methods of detection and removal of diseased cells, etc. Thanks to these studies, some patients overcome the cancer. Nevertheless, once a tumour is removed the cells are able to invade the surrounding tissue and spread into nearby organs. It is called metastasis and it is the worst nightmare of cancer.

It has recently been discovered that metastasis do not occur randomly or indiscriminately. Thousands of microvesicles known as exosomes go to other specific organs.

Once they have arrived, they cause changes that facilitate metastasis: the arrival of tumour cells and its multiplication.

Researchers are trying that exosomes do not recognize the target organ. The first experiments on mice, in which exosomal membrane protein was manipulated, showed the possibility of reducing the risk of metastasis development by 80%. Scientists hope to have this tool in the near future to continue battling cancer.

Photo: Micrograph of cells dividing cancer.

**Reading comprehension and reflection**

1. Translate into Catalan the following words from the text. Use a dictionary if you need to.

- |             |                 |
|-------------|-----------------|
| a) Abnormal | f) Surrounding  |
| b) Cell     | g) Nightmare    |
| c) Tissue   | h) Nearby       |
| d) Disease  | i) Tool         |
| e) Tumour   | j) Target organ |

2. What is metastasis?

3. How cancers start?

4. Explain the role of exosomes in cancer.

5. In pairs, write a list of some tips to prevent skin cancer.

6. Why is cancer research so important?