

ECHO

Spotlight on research

Give it a break!

Should a human gene be considered a natural entity and the property of humanity in general? Or is the fact of having identified it enough to make it an invention that can be patented? And by extension, offered for sale? These were the opening words of an article that ran in the *Nouvel Observateur* on February 7th 2002. Time and again, as Presidents of Cancer & Solidarity Foundation, we have encouraged the progress made in genetic research, which holds out so much hope for patients and their families. We are thus naturally sensitive to the fierce debate between the European scientific community and the company Myriad Genetics. In 1994, this US firm sequenced the BRC1 gene, which plays a crucial role in detecting predisposition to breast cancer, and obtained a series of patents that cover, without restriction, all diagnostic methods based on the BRC1. This is not an isolated case. Furthermore, the conflicts triggered by the patents are likely to multiply in the coming years. A question thus arises: could this industrial approach stifle the research process? The danger certainly exists. The only solution will be to impose limits on a market logic that treats a gene and a chemical molecule in the same way.

Thierry F. Ador and Olivier Ador

Living proof

Specialists have observed that modifying certain habits, can reduce the risk of developing cancer. **They have drawn up the following recommendations:**

- Remember that it is never too late to give up smoking
- Eat fresh fruit and vegetables
- Watch your weight
- Limit your alcohol intake
- Avoid sunburn
- Respect the hygiene and security rules in the workplace

And especially, see your doctor in the following cases:

- If you see that a beauty spot is changing shape, size or colour
- If you develop a lump somewhere on your body
- If you bleed or suffer from a wound that refuses to heal
- If you cough continually, or your voice is chronically hoarse
- If you lose weight for no apparent reason
- If your intestines or your bladder do not function at the same rhythm as before

Source: "Prevention" section of the *Ligue genevoise contre le cancer*

What's up, doc?

Scientists at the Swiss Institute of Experimental Cancer Research (ISREC) and the University of California in San Francisco have made a decisive discovery. In one fifth of human cancers, a gene called the *c-myc* produces an important quantity of protein, and this protein plays a key role in the cell cycle, since it is responsible for cell division. The study, led by Dr Andreas Trumpp, is the first to explore in depth the function of the *c-myc* gene and its protein. According to the researchers, many genes play a role in triggering cell division, but this gene is undoubtedly one of

the most significant. Without the protein that it produces, the cell remains at rest and all that is needed is for the protein level to rise for the division process to begin. The cancerous cells in which the *c-myc* gene develops thus receive a permanent order to divide, which explains their proliferation. However, in terms of possible treatment, it remains very hard to act direct on the gene or its protein, because they also play a major role in healthy cells.

Source: *Nature et Le Temps*, December 2001

Researchers solve medical problems, we solve their money problems

 **Cancer & Solidarité**
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On the front line

This year, Cancer & Solidarity decided to finance the work of two new researchers, together with one or two additional grants. **The French researcher, Dr Ming Wei, at the Hôpital Saint-Louis in Paris** is working on a project concerning genetic and cell therapy, an area that holds out considerable hope in terms of cancer treatment. Its main interest lies in the therapeutic trials carried out on animal models for various cancers, particularly brain tumours (in rats). These research studies use new procedures by which certain genes can be modified; they are then transported and introduced by retrovirus into the malignant cells. These modified genes will be capable of developing substances that can injure the cancerous cells. **Ms Virginie Quidville, also from France, working at the Centre Viggo Petersen of the Hôpital Lariboisière in Paris,** is conducting research into the treatment of medullary cancer of the thyroid gland by various types of non-steroidal inflammation. This project investigates and reveals in depth the mechanisms behind the way these substances act. The preliminary results are promising and the research in this domain is of great importance, since this type of cancer is known for its resistance to therapy and the usual treatment is surgical removal.

Planet research.

- According to a revealing report on passive smoking in France, compiled by Dr Bertrand Dautzenberg, tobacco kills **ten non-smokers every day**. Living in a smoke-filled environment **increases the risk of developing lung cancer by 25%**.

Source: Top Santé no. 132

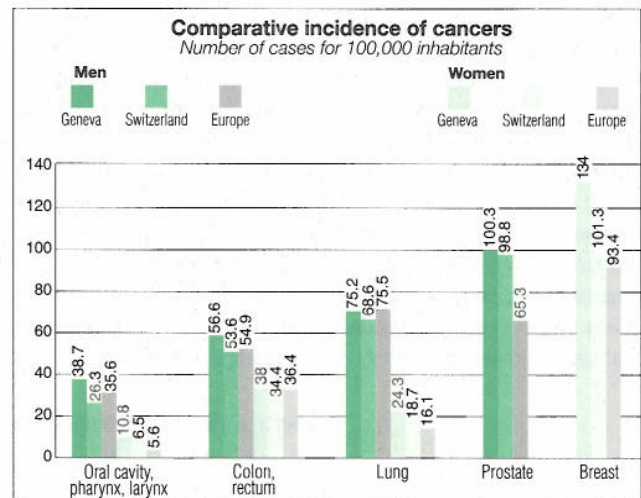
- A Finnish team made a study of women with breast cancer, to determine whether the illness had incited them to change their diet. Out of 123 women, only **9%** thought that the cancer could be linked to their nutrition. **53%** did not think so. Paradoxically, **32%** of the women changed their diet once the illness appeared and in **53%** of cases, the motivation lay in the desire to be cured and cope better with the treatment.

Source: Forumsanté, October 2001

- The Swiss laboratory, Novartis, has developed a new medicine that is active against chronic myeloid leukaemia, a hitherto incurable cancer of which 5,000 new cases are diagnosed worldwide each year. The molecule, called **Glivec**, targets the proteins that become deregulated in cancerous cells, whilst sparing the healthy

Vital statistics

The study conducted by the Geneva tumour register shows that Geneva is distinguished once more by its **particularly high frequency of cancer**. Tumours are responsible for **30.9%** of male deaths and **25.7%** of female deaths, or approximately **876** deaths a year. In Geneva, the abnormally high rate of cancer amongst men and women is higher than the averages for both Switzerland and Europe. Doctors diagnose **about 1,841** new cases each year. **Amongst men, prostate cancers outnumber lung cancers. Amongst women, breast cancer** remains the most frequent.



Source: the Geneva tumour register

cells. The medicine has already been clinically tested in several hospitals in Europe and will be placed on the market in the US this year.

Source: Spécial medical VSD no. 1260

- **Women who are particularly vulnerable to cancer of the ovary due to a genetic abnormality** (mutation of the BRCA19 gene) could reduce this risk by two thirds, by having their Fallopian tubes tied. The proof was provided by a US study conducted with a group of 400 women. The decision to undergo the operation nevertheless remains difficult, because when a woman wishes to reverse the process, fertility is recovered in only 40% of cases.

Source: Top Santé no. 133

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