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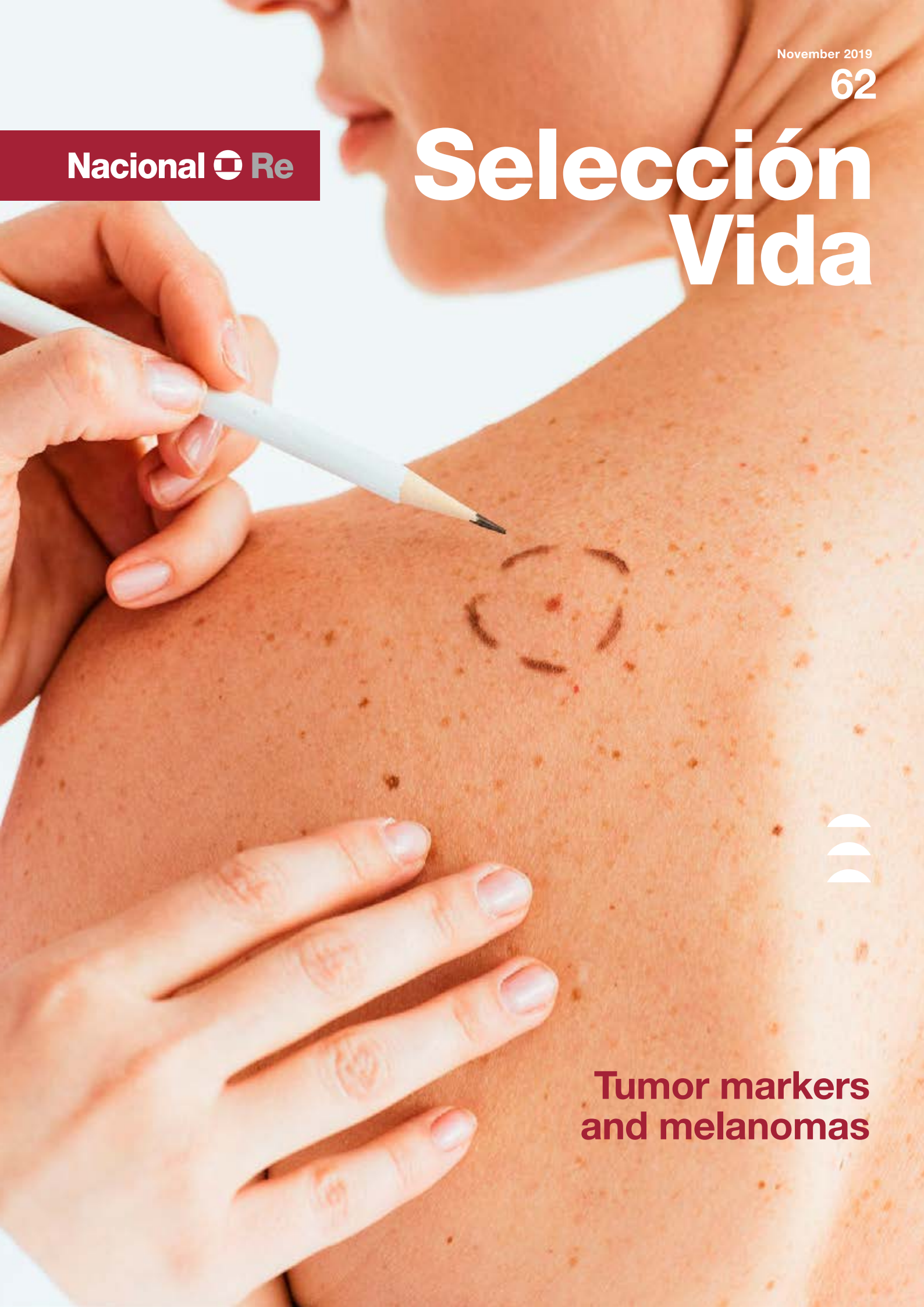
Selección Vida



Tumor markers and melanomas

TUMOR MARKERS: ARE THEY USEFUL IN INSURANCE MEDICINE?

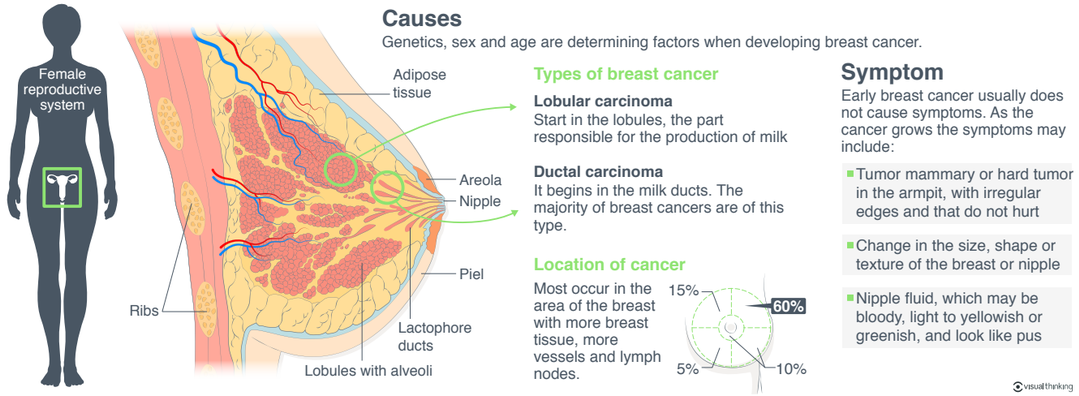
Tumor markers were initially defined as substances that could be measured quantitatively through different mechanisms, that allowed to identify the presence of cancer. Over time, they've been shown to be useful to monitor the response to treatment, predict prognosis and establish the extension of a tumor.

At this time there is a wide variety of substances that can be classified as tumor markers, including specific proteins, metabolites, tumor-associated antigens and enzymes.

Although in general terms it can be stated that tumor markers, in isolation, are not an effective tool in the diagnosis of a tumor, we will now consider the main markers and their associated neoplasms.

BREAST CANCER

It is a type of **malignant tumor that originates in breast tissue cells, ducts or lobules**.



BREAST CANCER

It is the most frequent cancer in women, its incidence increases with age. It is estimated that, in our country, one in twenty women will have breast cancer before reaching 75 years of age. The most used tumor markers in this type of neoplasm are CEA (carcinoembryonic antigen), CA 15-3 and the tissue polypeptide antigen.

> In general terms tumor markers, in isolation, are not an effective tool in the diagnosis of a tumor

However, the available data at present is not enough to justify their systematic use for the diagnosis of this tumor. This is because these markers are not specific for breast cancer. CA 15-3 is currently the most widely used, as it seems to have a higher sensitivity.

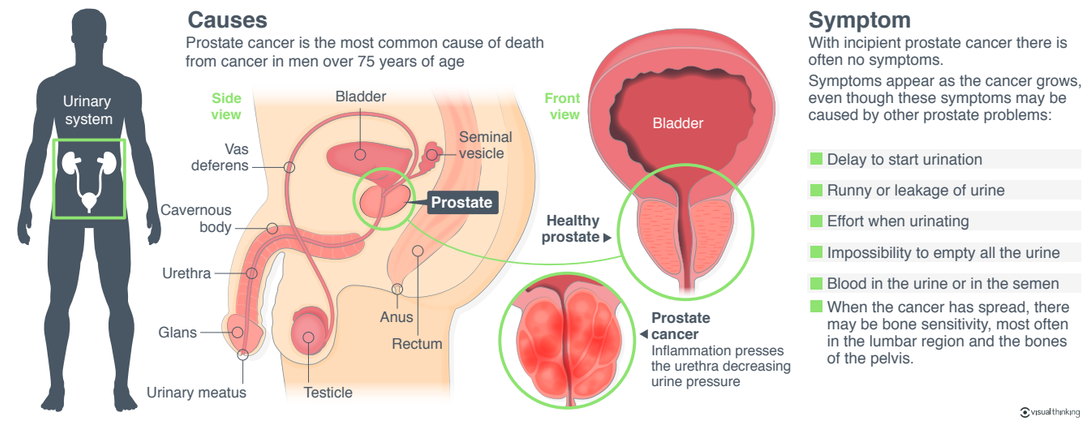
PROSTATE CANCER

The most prevalent tumor in the western world is prostate cancer, that occurs in approximately 30% of men over 50 years old. With regard to cancer associated mortality in men, it is only surpassed by lung cancer.

All this epidemiological data makes it necessary to have a tumor marker that helps for the early diagnosis of the disease. We currently have the prostate-specific antigen (PSA) but it is not only present in the prostate. It has been shown that this tumor marker is also secreted in the normal mammary gland, in mammary cysts, in the perianal glands and in other tumors (breast, parotid, ovary, liver, kidney, colon and adrenal glands). In summary, this tumor marker cannot be used as a screening for prostate cancer.

PROSTATE CANCER

It is cancer that starts in the prostate gland, a part of the male reproductive system that surrounds the urethra.



COLORECTAL CARCINOMA

Colorectal cancer is a very common disease in Spain, and it is estimated that it affects one in twenty individuals, especially in the elderly population. The most widely used tumor marker in this type of tumor is CEA, a substance produced by more than 90% of colorectal carcinomas. Unfortunately, it has limited value for the initial diagnosis, since it has a very low sensitivity in the earlier stages of the disease. On the other hand, it has been observed that CEA may be elevated in certain benign diseases as well as in other advanced non-colorectal carcinomas.

GASTRIC CANCER

Gastric cancer is one of the most frequent malignancies in the world. Patients may present a wide variety of high tumor markers: CEA, TAG-72, CA 19.9, CA-50 and CA-195, among others. Unfortunately none of them has any value for the screening of the disease, neither for the diagnosis nor for the follow up.

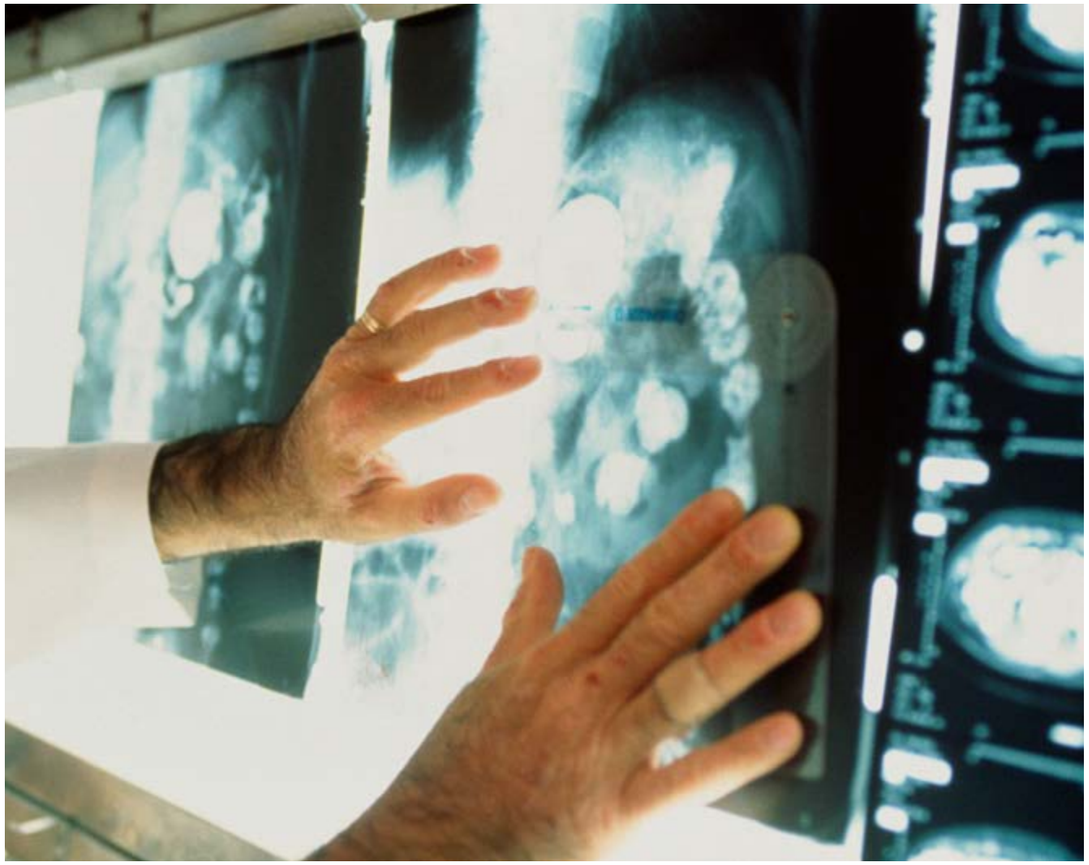
PANCREATIC CANCER

Pancreatic cancer is one of the most devastating diseases, characterized by extremely low survival rate for patients. We must add to this that its incidence is increasing in western countries, and therapeutic options are very limited. All this data makes it necessary to have a useful tumor marker.

We currently have CA-19.9 as the main tumor marker for this tumor, which rises significantly in 70-80% of all pancreatic cancers, although it may also be elevated in patients with benign pancreas diseases.

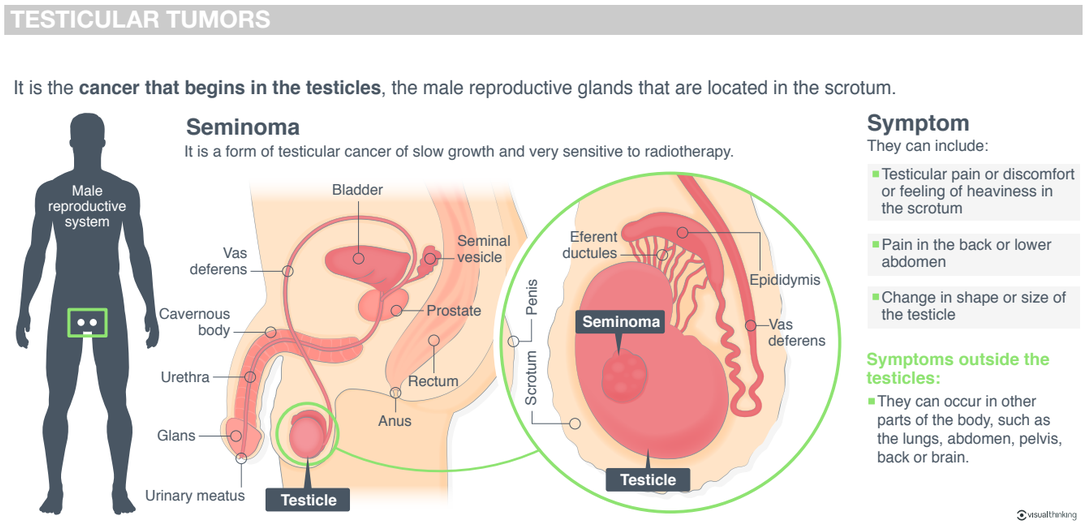
HEPATOCELLULAR CARCINOMA

Hepatocellular carcinoma is one of the most frequent carcinomas in the world, especially in Southeast Asia. Its tumor marker is alpha-fetoprotein (AFP), a substance that is only recommended for the screening of this tumor in patients with hepatitis B, in those with chronic active hepatitis or liver cirrhosis.



TESTICULAR TUMORS

It is the tumor that occurs most frequently in males between 15 and 34 years old. Broadly speaking, testicular tumors can be classified into three large groups: seminomas, non-seminomas and mixed forms of the two previous ones. The most useful tumor markers are AFP, hCG and lactate dehydrogenase, which are of interest for the diagnosis and prognosis of the disease.



EPITHELIAL OVARIAN CANCER

Epithelial ovarian cancer represents the fifth cause of cancer mortality in women. In Spain there are about two thousand cases a year, which cause more than one thousand and two hundred deaths. The initial clinical course is nonspecific, with nonspecific symptoms such as abdominal swelling, resulting in that two thirds of patients with this tumor are already in an advanced stage of the disease at the time of diagnosis.

> Tumor markers are a very important tool for patients with high suspicion or who have already been diagnosed with cancer

The tumor marker par excellence for this tumor is CA 125, although it is true that it may also be elevated in benign ovarian processes, as well as in benign diseases located in the pleura and pericardium.

UTERINE CANCER

Uterine cancer is the most frequent gynecological tumor, being adenocarcinoma the most frequent type. The usefulness of tumor markers in this tumor is limited, and none of them is sensitive and specific enough.

From what has been established above, we can summarize some conclusions:

1. Tumor markers are not enough by themselves to give a diagnosis.
2. Ordering a battery of tumor markers for an asymptomatic person without high suspicion for tumor disease has no diagnostic benefit but it can generate uncertainty and anguish for the patient
3. Tumor markers are a very important tool for patients with high suspicion or who have already been diagnosed with cancer, since they are useful in the follow up of the disease and in the assessment of the response to the treatment.

MELANOMA

Melanoma is the most dangerous type of skin cancer. Its incidence has increased progressively and steadily over the last quarter century, mainly due to three key factors: increasing sunlight exposure time, the reduction in the ozone layer and the progressive aging of the population.

Nowadays, Australia and New Zealand hold the highest incidence of melanoma worldwide, to the point that its frequency is three times the European average.

It is the least prevalent skin cancer - it represents only ten percent of all cutaneous cancers - but it is the most aggressive one and it has the worst prognosis of all. Sometimes, when it is detected there are already distant metastases.

In addition, we must bear in mind that early diagnosis is also a key factor for the increase in the number of cases. We don't have to demonize the sun, but the cause-and-effect relationship is obvious. For this reason, one of the clearest recommendations is to avoid sunbathing during the hours of increased UV radiation, when the shadow is smaller than the body size.

CASE STUDY

A 47-year-old candidate asking for life and accident insurance. He reports that he suffered from a melanoma on his back, diagnosed and cured three years ago, as the only medical history. The Dermatology report he provides shows he has been followed up for the last three years and he is already cured, without signs of recurrence. In this report we read:
Diagnosis: superficial spreading melanoma, with a Breslow Index "2", without mutation of the CDKN2A gene, and Clark level "3".

Comment: as there are discrepancies between the Breslow Index and Clark's, the second one would prevail. Since it is a Clark level "3", the recommendation would be to postpone the insurance for one more year and then to consider it according to the warranties listed in the table. For the accident insurance, proceed as usual.

WHAT IS A MELANOMA?

A melanoma is a type of cancer that starts in the melanocytes, the skin cells that produce melanin, a pigment that provides skin tanning after sun exposure.

Not everybody has the same risk of suffering from melanoma after similar exposure time to sun light. It has been proved that individuals with fair skin have a higher risk than those with darker skin, and that the risk is highest in redheaded, freckled people.

WHEN SHOULD WE SUSPECT THAT A SKIN SPOT IS SUSPICIOUS?

There is a mnemonic rule that can help us to determine if we should worry and consult a specialist about a certain skin spot: ABCDE.

- **A: Asymmetry.** In general, symmetric skin lesions are benign.
- **B: Irregular Borders**. At sight of any skin spot with irregular or poorly delimited edges we should consult a doctor.
- **C: Non-uniform Color.** We must pay attention to any lesion with different shades.
- **D: Diameter:** greater than 6 mm.
- **E: Evolution:** Any lesion that has grown, or changed its shape or color should be evaluated by a specialist

WHERE DO MELANOMAS APPEAR?

Melanoma may be found in any body region, including the nails, the scalp or the soles of the feet. However, the most frequent locations are those more commonly exposed to ultraviolet radiation, such as the back in men and the legs in women.

Melanoma is the least prevalent skin cancer but it is the most aggressive one and it has the worst prognosis of all

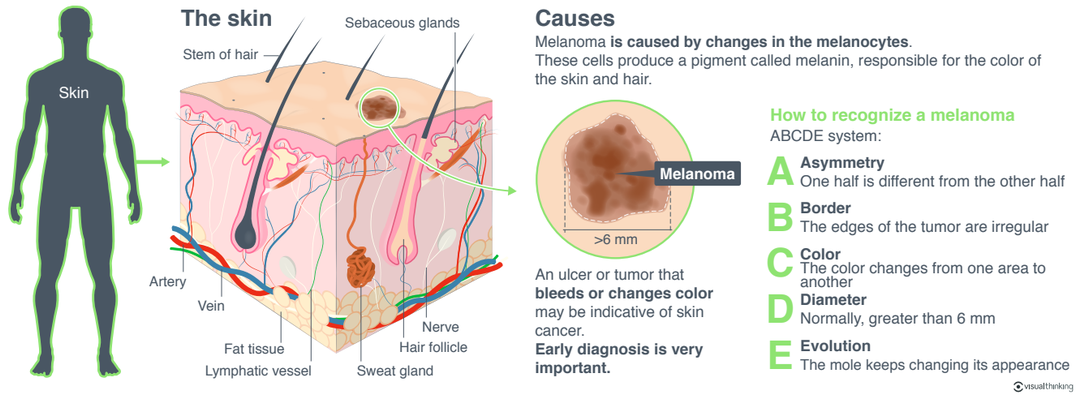
CASE STUDY

A 43-year-old lady who applies for life insurance. The Dermatology report she provides refers the diagnosis five years ago of a superficial spreading melanoma on the right arm (Breslow 2). She has been followed up since then and she is already in full remission.

Comment: Life insurance may be provided, since three years have passed, as the timeframe stipulates, and we would be in the second year after the postponement, which would require an extra premium of 2.5 per thousand during this year, and then one per thousand for one more year.

MELANOMA

It is **the most malignant type of skin cancer and is the most frequent cause of death** due to skin diseases



HOW IS IT DIAGNOSED?

Presumptive diagnosis is made from the clinical observation and requires a biopsy to confirm it. In the histopathological report, two relevant data usually appear: the maximum thickness or Breslow Index and the mitotic index.

The Breslow Index indicates how deeply the tumor has grown into the skin and it is measured in millimeters. The greater the thickness, the worse the prognosis. In other words, a tumor with a Breslow Index greater than 4 mm will have a worse prognosis than another with an index of 1.05 mm.

Clark levels are also used to classify melanoma according to the layers of the skin that are affected:

- **Level 1:** When it is confined to the epidermis.
- **Level 2:** When it affects the papillary dermis.
- **Level 3:** When it affects the entire papillary dermis but does not extend to the reticular dermis.
- **Level 4:** When it extends to the reticular dermis.
- **Level 5:** When it affects to hypodermis.

The mitotic index gives us information about the speed at which the tumor cells divide. The higher the cells division rate (mitosis), the worse the prognosis.

WHAT TREATMENT OPTIONS ARE AVAILABLE?

Surgery is the main treatment for most patients. For advanced stages of the disease, chemotherapy, immunotherapy or radiotherapy are also indicated, either by themselves or in combination.

In addition, the length and type of the treatment will depend upon the tumor features, its stage and the characteristics of each patient.

Our automatic tariff system for cancer allows us to rate this pathology in a simple way.

To conclude, we end with a positive fact: within the European Union, Spain, Greece and Portugal are the countries with the lowest mortality rate due to melanoma.

MELANOMA

SCALES		TNM STAGING	VERTICAL THICKNESS	
Breslow 1	Clark 1	Tis	< 0.76 mm	Life insurance: postponement a year and evaluate. If the same classification persists: standard Disability, accident and short-term disability insurance: standard
Breslow 2	Clark 2	T1	0.76-1 mm	Life and disability insurance: postponement 3 years after finishing the treatment. After the postponement during the first year +5 per thousand, during the second 2.5 per thousand, the third year 1 per thousand, and then standard Accident and short-term disability insurance: standard
Breslow 3	Clark 3	T2	1-2 mm	Life and disability insurance: postponement 4 years after finishing the treatment. After the postponement during the first year +5 per thousand, during the second 2.5 per thousand, the third year 1 per thousand, and then standard Accident and short-term disability insurance: standard
Breslow 4	Clark 4	T3	2-4 mm	Life and disability insurance: postponement 5 years after finishing the treatment. After the postponement during the first year +5 per thousand, during the second 2.5 per thousand, the third year 1 per thousand, and then standard Accident and short-term disability insurance: standard
Breslow 5	Clark 5	T4	>4 mm	Life, disability accident and short-term disability insurance: decline

In which case there are discrepancies, the Clark classification will predomínate.

Selección Vida

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