Presymptomatic diagnosis and prevention of tumors

For the pre-symptomatic diagnosis of cancer diseases, area-wide screening is mainly used. '*Screening* is a general investigation of the population. Its purpose is the detection of treatable tumor disease in the early stages*. The goal of screening is to reduce both morbidity (disease) and mortality (death rate). The basis is the search for individuals at risk of developing the disease before the first symptoms appear.

The advantage of presymptomatic diagnosis is the detection of the disease at a stage that allows easier treatment with better results. At the same time, the cost of the treatment itself is often reduced. Tumor diseases are a typical example, in particular: cancer of the cervix, breast and colon and rectum.

Screening Use Criteria

- "the disease must be common in the population"
- *the disease must have a relatively high morbidity*
- *there is an effective treatment in the early stages*
- *an affordable and inexpensive test is available for detection*
- *the test method should be as sensitive and specific as possible*

Presymptomatic dg of colorectal cancer

The basis is tests for occult bleeding in the stool and primary screening colonoscopy:

- **occult bleeding tests** are recommended for people over 50 once a year - available from GPs
- people older than 55 undergo occult bleeding tests once every two years or *colonoscopy* once every ten years

Colorectal cancer is among the first three most common malignant tumors in the Czech Republic. Their treatment has significantly better results if caught early - ideally in people who do not yet experience difficulties. Nationwide screening was launched in 2009.

🔍 *For more information see Colon Cancer Screening.*

Symptoms of Colorectal Cancer

- *specific*: weight loss, diarrhea and constipation - change in stool regularity, frequent bowel movements, abdominal pain, cramps,
- *non-specific*: fatigue, nausea, abdominal distension, temperature or subfebrile

Presymptomatic dg breast cancer

Breast cancer is the most common tumor that occurs in women in the Czech Republic. The examination and detection of breast cancer falls under the competence of gynecologists, who should also palpate the breasts during the annual preventive examination of patients. An alternative is self-examination by women. In the case of resistance or symptoms that are usually associated with breast cancer, women are sent for examination to mammological centers. Mammogram detects up to 95% of all cancers, if necessary, the examination is supplemented with ultrasound. Mammography is an X-ray examination, which also carries certain risks. The influence of radiation accumulates during our lifetime, therefore frequent examinations can become more harmful than beneficial for a woman. It is therefore always necessary to consider the indications.

Women over the age of 45 have the right to a free mammogram once every two years. The examination is also intended for women with a positive family history, where an increased risk of the genetic form of the disease (BRCA genes) is assumed. The nationwide screening is the oldest in the Czech Republic and has been running successfully since 2002.

Symptoms of breast cancer

- skin pulling or pitting
- nipple irregularities (retraction)
- nipple discharge
- redness and warm skin (also in mastitis)
- orange peel (infiltration of the lymphatic system)
- ulceration

Risk Factors

- positive family history (5-10% of tumors are genetically determined) - in 1994-1995, genes associated with autosomally inherited forms of breast cancer - BRCA1 and BRCA2 - were diagnosed. Mutations in these genes

increase the risk of breast (56-87%) and ovarian (10-60%) disease.

- age – the risk increases after the age of 40, and significantly after the age of 50
- the presence of cysts in the breast
- early onset of menstruation (before age 12)
- later onset of menopause
- childless women have a higher risk, as do women with their first pregnancy after the age of 30
- breastfeeding reduces the risk of breast cancer
- higher alcohol intake
- inappropriate diet and obesity

Presymptomatic dg of cervical carcinoma

Early stages of cervical cancer are relatively easy to treat, so screening is absolutely key. The stage of initial cell changes does not cause any symptoms, so it can only be detected by screening as part of regular gynecological examinations every year. Early removal of already changed cells can prevent the development of cancer. The examination concerns all women and girls after the initiation of sexual life. HPV - human papilloma virus, which are transmitted through sexual intercourse, play an important role in the development of the disease. By the age of 35, 60% of women in our country will encounter this infection. In most cases, the infection will occur asymptomatically thanks to the intervention of the immune system.

Screening is based on cytological examination of a smear from the mucous membrane of the suppository under a microscope. The cells are removed with a small brush or brush. Nationwide screening was launched in 2008. Vaccines against the main types of HPV have also been developed in recent years. Vaccination is recommended for young women up to the age of 25, but preferably before starting a sexual life. Vaccinations are not covered by health insurance companies.

Risk Factors

- human papillomavirus infection
- promiscuity and a larger number of partners
- smoking
- immune disorders
- age over 35 years

Cervical Cancer Symptoms

- these are very often ``asymptomatic *conditions - preventive examinations by a gynecologist are necessary*
- only '*late symptoms* of cancer development appear - pain in the lower abdomen, bleeding, discharge from the vagina

Links

Related Articles

- colonoscopy
- HPV

External links

- Kolorektum.cz (http://www.kolorektum.cz/index.php?pg=pro-verejnost--kolorektalni-screening)
- Mammographic screening (http://www.mamo.cz/index.php?pg=mamograficky-screening)
- Breast cancer (http://www.rakovinaprsu.cz)
- Cervix.cz (http://www.cervix.cz)

Source

- Presymptomatic testing for BRCA1 and BRCA2 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1734277/)
- Papillomavirus (http://www.uhkt.cz/laboratore/narodni-referencni-laboratore-nrl/nrl-pro-papillomaviry-a-polyomaviry/novinky)