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TESTICULAR CANCER WITH DISTANT METASTASES – CASE REPORT

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Testicular cancer is a rare disease of younger men, but the incidence of this disease has increased considerably in the recent years in many western countries. Ninety-five percents of these tumours derive from germinative cells, and more than 70% of patients are diagnosed in stage I disease. Causes of testicular cancer are not well understood. The emergence of this disease is mainly linked to the earliest years of life and events in this period as testicular maldescensus, carcinoma in situ, trauma and genetic predisposition.

We present a patient, a soldier, 21 years old. At the time of diagnosis of mixed testicular tumour type, the existence of late, stage IV disease was noted. The patient, despite the existence of visible changes in the testicle and reported subjective symptoms, avoided urological examination for months.

Delay in diagnosis of testicular tumours leads to the discovery of the disease in advanced stages when the chances for the treatment of this disease and possible curing are significantly reduced. *Acta Medica Medianae 2011;50(3):45-48.*

Key words: *testicular cancer, metastatic germ cell tumor, diagnosis, histological*

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Introduction

Malignant testicular tumor is a rare disease. It occures at any age, but certain types dominate in some periods of life. Two thirds of testicular tumors occur between 25-35 years of age (1).

Ethiology of testicular cancer is not fully explained. Several factors can cause this tumour. The most common risk factors are related to early years of life including cryptorchidism, carcinoma in situ, estrogen effects on fetus in uterus, and also scrotum and testicular trauma (2). Data from medical literature indicate that the incidence of testicular cancer has doubled in the last fourty years (3). In many countries, testicular cancer is a rare disease with the incidence of 1/100.000 in Asian, African and American population and the highest incidence is in Holland 9,2/100.000 (4,5). The majoruty of primary testicular tumors is derived from the germinative cells. More than half of these tumors consist of more than one hystological tumor type: seminoma, embrional carcinoma, gall bladder tumor, poly-embrioma, choryocarcinoma and teratoma (6). There are numerous pathohistological and clinical classifications of testicle tumor stages.

Case report

A 21-year-old soldier, a month after arriving in the army came to an internal medicine specialist complaining of certain symptoms without saying he had noticed some change on his right testicle. He developed general malaise, lost weight, stomach pain, right groin pain and pain in the lumbar area and also enlargement of the left supraclavicular lymph node which he noticed himself. A medical examination started with biochemical blood analysis that showed severe anemic syndrome without any other pathological change. On the chest radiography, there were noticed multiple soft tissue abnormalities in both lungs which represented secundary deposits. On an ultrasonographic abdomen examination, a pyleocaliceal dilatation of both kidneys was noticed but it was more prominent in the right kidney. In the left liver lobus, a nonhomogeneous abnormality appeared, 40mm in diametar, which had secundary deposit characteristics.

As radiology specialist suspected on testicular tumor, an ultrasonographic examination of the testicles was performed. During this examination, he desrcribed the right testicle enlargement, nonhomogeneous echo structures with necrosis fields, signs of hydrocele, while left testicle was of normal size with homogeneous structure and without pathological changes.

Afterwards, the patient did not visit any urology specialist, so he stopped the treatment by his decision and continued his military service. Two months after his first examination the patient

revisited an internal medicine specialist with the simptoms worse than the first time. The doctor sent him to an ultrasound examination of abdomen and testicles and the results were the same as the previous time. After the ultrasound, abdomen and small pelvis multislice computer tomography (MSCT) was performed. MSCT exam showed that on the left neck region, next to the left lobus of thyroid gland, there was an enlarged lymph node 4 mm in size (Figure 1). In mediastinum, there were visualised packets of enlarged lymph nodes in diametar up to 4 cm. Hilar lymph nodes were also enlarged, in diametar up to 5 cm, while one of them was pressuring the bronch for the right lung upper lobus, constricting his lumen. There were several abnormalities present in the lung parenchyma on both sides, which represented secundary deposites. The biggest one was in the rigt lung, with the laterobasal position, about 6cm in diameter (Figure 2). Changes in the liver that represented secondary deposites were present as well as the multiple enlarged lymph nodes in the retroperitoneal space that pushed the pancreas towards the anterior abdominal wall. In both kidneys, predominantly in the right one, there were stagnation abnormalities (Figure 3). The values of tumor markers in serum showed very high values: beta HCG more than 10000, AFP- 7205, LDH -981.

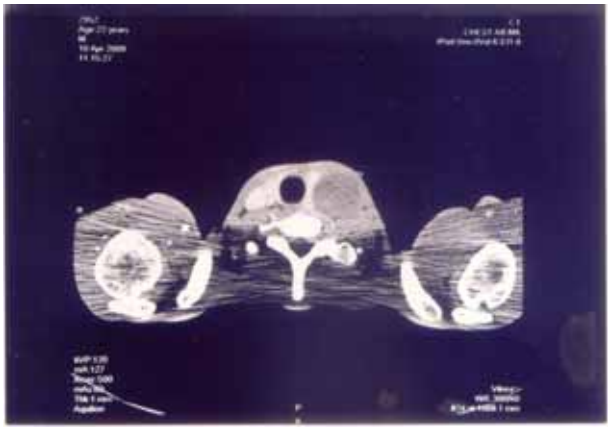

Figure 1. MSCT of the neck – axial slice

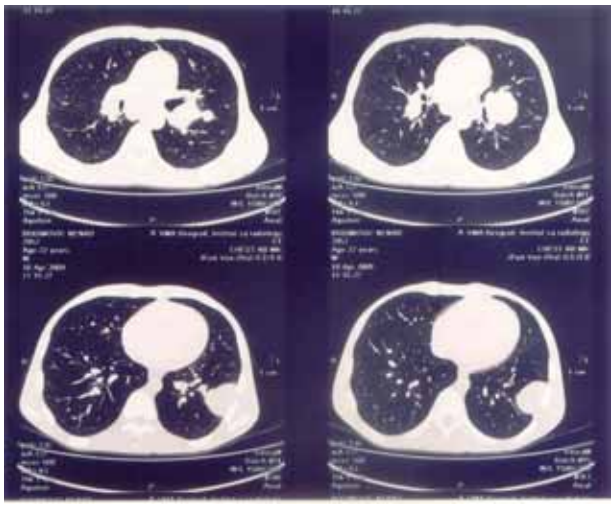

Figure 2. MSCT of the chest – coronal slice

After performing the MSCT, the patient was sent to urology specialist who set the diagnosis: disseminated testical tumor disease. Unilateral orchiectomy was performed and operative material was sent to pathohistological verification. Macroscopically, the testicle was enlarged, 12x8x8 cm in size, with nodally changed surface, with residual hardly detacheable membranes, and on a section the testicle was changed with large fields of necrosis and haemorrhage, and only with partly preserved homogenous grey-white structure (Figure 4). A method of partial tissue processing with at least one paraffin block for every cm of maximal tumor diameter was used for analysis.

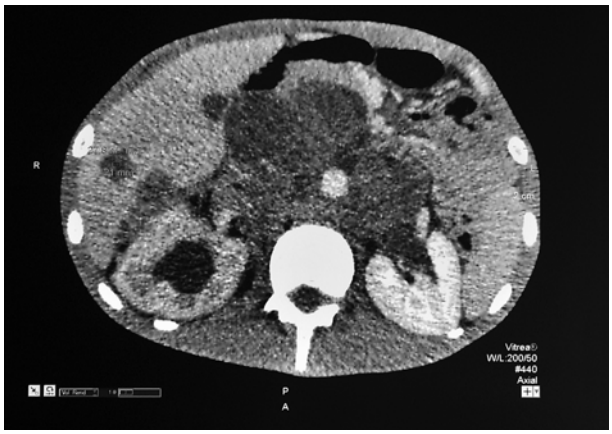

Figure 3. MSCT of the abdomen – axial slice

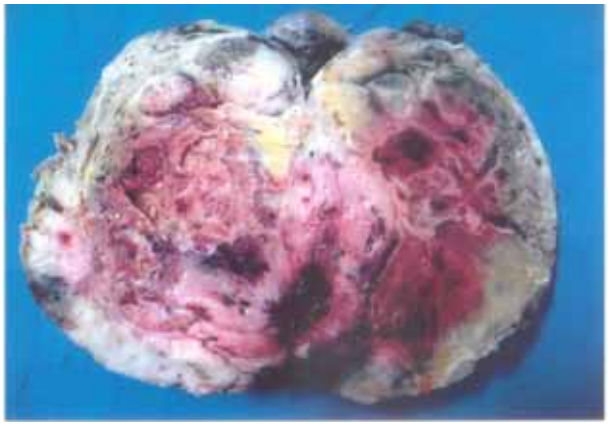

Figure 4. Macroscopic image of testicular tumor

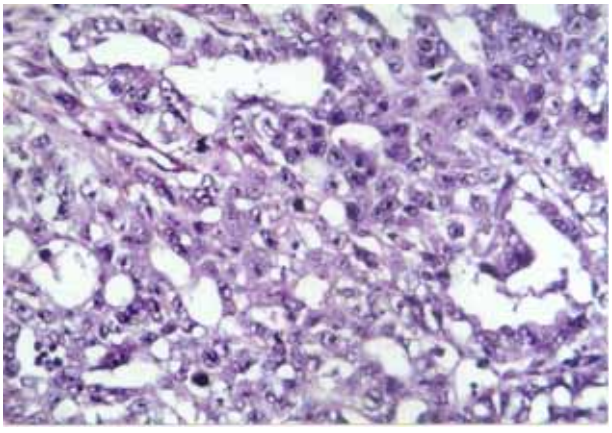

Figure 5. Solid embryonal carcinoma (HE,x200)

Microscopically, 10 tissue sections taken from testicular tumor were analysed. Tumor tissue sections were fixated in puffered 4% formaline, 18-24 hours, dehidrated in alcohol and molded in paraffin. Tissue was cut on 5-7 microns (μ) width from the paraffin blocks, when standard haemato-xylin eosin staining was performed. On mycroscope, the tumor was of combined histological type, built of embryonal carcinoma (70%), gall bladder tumor (20%) and mature and immature teratomic component (10%). Predominantly, the tumor was composed of embryonal carcinoma (Figure 5). For tumor stage determination /pT/ we used the clinical staging determined by American Joint Committetee on Cancer – tumor, lymph node and distant meta-stases staging (AJCC-TNM) from 2005.

Discussion

Malignant testicular tumors are rare in men, but in most patients they are discovered in early phase. 95% of all testicular tumors come from the germinative epithelium (7). Reaserches of testicular tumors that originate from germi-native cells are run by hypothesis that early onset of the disease starts in the fetal period and it consists of abnormal differentiation of fetal primordial germinitive cell population. There are several strong indicators that these tumors are related to abnormal condition in the fetal period (6). Genetic researches of Rapley et al. indicate that there are clear signs of sensitive places on 5, 6 and 12 chromosomes as possible causes of germinative testicular tumors (8).

Symptomatology of this disease is not expressed in the testicle or, in small percent of patients, it is presented with lung abnormalities or enlarged metastatically changed paraaortic lymph nodes which was the case with our patient. Abdominal mass can sometimes be the initial sign of testicular tumor existence. Abdominal ultrasound in these cases is the first step in discovering metastatic changes (9).

Testicular tumor diagnosis is not hard, however, the frequency of this disease, age and constant testicle enlargement should be considered and analyzed. Diagnostics begins with physical examination as a reliable method, because every painless testicle enlargement can indicate testicular tumor. It is typical that testicular tumor is a painless mass within the membranes and without signs of fixation for membranes and scrotal skin, usually clearly limited from epydidimis. Testicular tumors can be accompanied with hydrocele, testicular ectopia and orchiepididymitis which was the first manifestation of testicular tumor in 4% of cases (10).

Ultrasound of scrotum is a significant diagnostic method that provides, with great reliability, the differentiation of extratesticular and intratesticular changes and abnormalities in tumor itself. This method is diagnostically precise with high percent of specificity and sensitivity in over 80% (9). Final diagnosis of testicular tumour and its treatment is based on the results of pathohistological examination of primary section and on the values of tumour markers.

Although the testicle is an organ to which men pay special attention, a painless growth of tumor is the reason that patient does not go to the doctor in early phase of the disease. Patient often thinks that it is a transitional abnormality and that enlargement and hardness of the testicle occurred due to exhaustion, long standing or cold. Also, the patient does not go to the doctor because he is embarrassed from his family and parents. Data obtained by the American authors from military institutions say that patients more often come to the doctor in early stages of the disease, because they perform systematic examination more often, because self-examination is performed and there is a desire for sick benefit when there is even the smallest abnormality regarding testicles (11). In our institution, in the past 10 years, 16 patients were operated on and they all had the first stage of the disease.

Major statistics show that almost half of the patients were treated two to four months under other diagnosis. Borski states that his patients on average were six months late from the begining of the disease till performing the first diagnostic method, resulting in unsuccesful treatment (11).

Conclusion

A delay in diagnosis of testicular tumor can occur because of ignoring symptoms by the patient, and inaccurate diagnosing by the doctor. Often, the changes on testicle are declared for epididimitis and the pain in the back with retro-peritoneal changes is confused with discopathy, which was in one moment the case with our patient.

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TUMOR TESTISA SA UDALJENIM METASTAZAMA – PRIKAZ SLUČAJA

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Tumor testisa je retko oboljenje muškaraca mlađe životne dobi, ali se incidenca ovog oboljenja znatno povećala poslednjih godina u mnogim zapadnim zemljama. Devedeset pet posto ovih tumora potiče od germinativnih ćelija, a kod više od 70% bolesnika bude dijagnostikovano u I stadijumu bolesti. Uzroci nastanka tumora testisa nisu dovoljno razjašnjeni. Nastanak ovog oboljenja se uglavnom vezuje za najranije godine života i događaje u tom periodu kao što su maldescenzus testisa, karcinom in situ, traumu i genetske predispozicije.

Prikazan je bolesnik, vojnik, star 21 godinu. U trenutku dijagnostikovanja tumora testisa mešovitog tipa, konstantovano je postojanje odmaklog, IV stadijuma bolesti. Bolesnik je, uprkos postojanju vidljive promene na testisu i izraženih subjektivnih tegoba, mesecima izbegavao urološki pregled.

Kašnjenje u dijagnostici tumora testisa dovodi do otkrivanja bolesti u odmaklom stadijumu kada su šanse za lečenje ove bolesti i moguće izlečenje znatno smanjene. *Acta Medica Medianae 2011;50(3):45-48.*

***Ključne reči**: testikularni kancer, metastatski tumor germinativnih ćelija, dijagnoza, histologija*