CASE REPORT

Probably the oldest patient with the diagnosis of medullar conus teratoma

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Abstract: Background: Authors present a case report of a 60 year old patient suffering from several movement and sensitivity disorders lasting for several months. On magnetic resonance scans a huge extramedullar intradural structure was described. Patient underwent three operations and the same number of histological investigations. Furthermore we have performed bacteriological investigations because of the presence of suspicious pus during the surgery.

Results: Even after the third investigation the evidence of mature teratoma has been established. After successful passing of three surgeries, the patient has no sphincter disorders and she is able to walk with the sticks and she has only small sensitivity deterioration.

Conclusion: All forms of teratoma are chemo- and radioresistant, so beside total extirpation we have no relevant possibilities to cure this tumour. The size of the extirpation is mostly limited by the time of appearance, the size of the tumour and by the potential damages of the normal spinal cord tissue, which could be protected by using neurophysiology (Fig. 3, Ref. 9). Full Text in free PDF www.brnj.sk.

Key words: mature teratoma, age, diagnostic difficulties.

Teratomas belong to a group of tumours developed from embryonic cells. They are also called germ cells tumours. They differentiate from ectodermal, endodermal and mesodermal tissue. Furthermore, we can identify mature and immature forms. They occur very rarely and in 90% they manifest in the age under 20 years (Jennings et al, 1985). The congenital forms and forms manifested in elderly are very seldom. The men – women ratio is 2:1. They grow strictly in the midline, 80% grows nearby pineal region. Rarely they can affect the orbital soft tissue, scalp or spinal cord. However there are only nine cases of conus medullaris teratoma described in literature (Kahilogullari et al. 2006).

Their clinical manifestation is in accordance with their localization, but there are several general characteristics like puerperal praecox or Parinaud’s syndroma or eyesight disorders. Their histological verification is a strong factor of diagnosis, because their CT or MRI scans are not specific enough. But the occurrence of cysts and calcifications suppose us from the plausible diagnosis.

Mature teratoma is composed of fully differentiated cells and they almost concur with several types of normal tissue. They are characterized by low mitotic activity. Ectodermal components are represented by skin or choroidal plexus, mesodermal differentiation includes cartilage, bone, muscles or adipose tissue and endodermal components include cysts with epithelial lining of pulmonary or intestinal origin. Rarely, it can be presented as pancreatic or liver tissue.

Immature teratoma consists of several low differentiated cells, which look like fetal tissue. This incomplete differentiation occurs only partially, the most of the cells are well differentiated as well as in a mature form. Some authors describe the development of immature form to the full mature form of teratoma (O’Callaghan et al, 1997).

Teratoma with malignant transformation is a rare form of teratoma, containing a somatic type of malignant component (rhabdomyosarcoma, adenocarcinoma).

All teratomas are immunohistochemically AFP positive. Other important markers are ß - fetoprotein and cytokeratins. Immunohistochemistry could illuminate some differential diagnosis problems.

Case report

A case of a 60 year old female patient is presented. She has suffered from progressive problems with walking since 2005. Her movement gradually worsened until she has used a wheelchair. She was admitted at a neurological department, she underwent a nuclear magnetic resonance (NMR) with an evidence of a tumour of spinal cord conus, almost totally obliterating the spinal space (Fig. 1). After using corticosteroids she got better, anyway we have decided to treat her surgically. Several points are important from her medical history. After she suffered from
any malignant tissue. The postoperative MRI scans showed a presence of postoperative haematoma with a size of 33 mm in diameter, but due to the high risk of infection scattering and due to the improvement of the patient, no more operations have been performed. Intensive physiotherapy and a long-term antibiotics usage have been recommended.

The patient underwent another NMR investigation in a month and a persistence of an infiltration or abscess formation with a clear pressure on a medullar conus was established (Fig. 2). The movement improvement has stopped. Another operation was indicated. No more pus was found, only several fibroproductive changes were present. However the clinical status of our patient improved sequentially. Second histological investigation didn’t bring any evidences of malignancy. The patient was transferred to another neurological department.

After 12 months, the patient came with new NMR scans, showing recurrence of the tumour (Fig. 3). Its size was almost the same as on the first MRI scans. The improvement of her neurological deterioration stopped. During this third operation we found pus and malacic detritus, again. Some parts of the tumour reminded of cholesteatoma. During further preparation some motoric evoked potentials (MEP) escaped and after the interruption of the preparation their improvement achieved only 50 % level. Every other attempt led to the MEP deterioration. So the operation was stopped. The patient got better. She improved to the status with light paraparesis and hypoesthesia. After the histological evaluation, some parts of ectodermal origin have been established. In a contest with a previous histological investigation, this case has been closed with an evidence of mature teratoma, which consisted of epidermal and cartilaginous parts.

Discussion

The diagnosis of any forms of teratoma in elderly is improbable and with 60 years our patient remains probably the oldest patient sustaining from immature form of teratoma. Their localization predestines often their early clinical manifestation. The characteristic occurrence and clinical manifestation of teratoma are in the age group under 20 years.

Spinal cord localization of teratomas is very seldom (Fernández-Cornejo et al, 2004). Their CT or NMR scans are not so characteristic when comparing with other tumours. However, there are some signs concerning our attention on teratomas. Intratumorous cysts and the finding of calcifications are supposed from this diagnosis.

During the histological investigation, there are some differential diagnosis problems. Anyway, the presence of some of ectodermal or endodermal components should focus our attention to this rare diagnosis. Also the presence of some oncoproteins in serum and liquor belongs to the standard diagnostic procedures. The most important markers are α-fetoprotein and cytokeratins. Other markers like gonadotropins and placental alkaline phosphatase point to another type of germ cells tumours like germ-nomas or choriocarcinomas. The presence of these markers can also change the therapeutic approach, because choriocarcinoma
is the only one germ cell tumour which is treated with radiotherapy or chemotherapy successfully.

**Conclusion**

After three surgeries the tumour wasn’t removed completely. The possible complete removal was stopped by the MEP deterioration during the last operation. Anyway, after three operations this patient has not sphincter disorder and she is able to walk with sticks. According to the oncologist’s opinion there is no need for radiotherapy because of low sensibility of teratomas. And we also can’t use chemotherapy because of big chemoresistance of the tumour. So the one possibility of successful treatment remains complete removal of the tumour.

**References**


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