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A case of retroperitoneal tumor – clinical and therapeutic considerations

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ABSTRACT

Introduction: The aim of this paper is to present a case of rare retroperitoneal tumor.

Material and Methods. A 72 year old man presented with six month history of abdominal girth, lumbar pain and occasional episodes of constipation was admitted in our clinic. A computed tomographic abdominal scan revealed a retroperitoneal solid mass.

Surgical exploration performed later displayed solid and well delimited mass throughout retroperitoneal space followed by excision of lesion and multiple drainages. Microscopic pathological examination was benign nerve sheath tumor.

Conclusion. These tumors are characteristically firm, smooth, and asymptomatic. They range in size from 1-2 mm to over 20 cm. Awareness of this indolent and rare condition is an important prerequisite for early diagnosis and appropriate treatment. Surgical excision can usually be accomplished by enucleating of the tumor without damage to the adjacent nerve.

Keywords: retroperitoneal tumor, clinical, neurogenic tumor

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Introduction

Neurogenic tumors represent about 23% of all primitive retroperitoneal tumors and have a low frequency in adults (1.5%). Clinical diagnosis is difficult because there are no specific manifestations.

Most patients present to the hospital for abdominal pain, abdominal presence of a tumor mass on physical examination or imaging examinations accidental discovery of a tumor.

Case report

We present below the case of a man F.V. of 72 years admitted to our clinic from 24th December 2014 for nonspecific low back pain straight, bowel disorders recently installed (episodes of constipation alternating with diarrhea), significant abdominal distention, diffuse abdominal pain and marked asthenia. From the patient's medical history holds that recently treated for right thoraco-abdominal herpes zoster. When the examination was conducted and an

ultrasound scan was performed that revealed a solid hypo-echogenic formation right paravertebral about ~20/15 cm.

General clinical examination presents the patient with a height of 1.75 m and 82 kg weight conscious, slightly pale, with characteristic pigmentation after zoster to the right thoraco-abdominal region. The family history is insignificant; medical history is retained in essential hypertension stage 3rd.

Local examination (abdominal), in addition to subjective complaints, find a moderately distended abdomen, spontaneous painful on palpation and emphasizing the right flank pain and hypogastric area. Physical examination reveals the presence of a bulky paraumbilical right tumor, about ~ 20/10 cm, palpable to ipsilateral iliac fossa and right flank, mobile, irregular, sensitive (moderate pain), showing contact lumbar and abdominal balance. Remember that the patient shows no clinical signs or symptoms suggestive of urinary impairment or peritoneal irritation. The symptoms began around 6 months and progressively worsened.

Abdomino-pelvic ultrasound scan showed a liver with granular discrete homogeneous hyperechoic structure, antero-posterior diameter of right lobe 15.4cm, the left lobe of 6.5 cm and 2.8 cm caudate lobe. Portal vein, bile duct are normal size, pancreas; both kidneys and spleen are normal structure and dimensions. Ultrasound revealed a solid mass medial and lower from the right kidney with 20 / 15/14 cm in diameters, well-defined capsulated mixed echogenic mass and weak vascular signal; urinary bladder are distended.

Laboratory findings: Hemoglobin 13,60 g%, Hematocrit 42%, WBC 11200 /mm³, lactic dehydrogenase 206 UI/l, C-Reactive protein, alpha-fetoprotein and carcinoembryonic antigen are in normal levels.

Abdominal computed tomography (CT) scan - native and with contrast - shows a large tumor, which stretches from the inferior pole of the right kidney, upper and lateral pushing the kidney, and extends to the lower right iliac fossa, with positive densities 40-80 UH (Figures 1, 2). Also the tumor marks and moving without seeming to infiltrate the pyelocaliceal system and without interest Gerota

fascia. CT scan also raises the suspicion of right psoas muscle invasion because in many areas there is not a cleavage plane with it.

Figure 1 and Figure 2 Retroperitoneal tumor – CT scan with contrast

No tumor spreads to the right spine holes conjugation, but has contact with T11-L4 vertebral bodies without causing structural changes them (there was no bone erosion). Also, there is less compression of the inferior vena cava. Renal vein and artery were normal. (Figures 3-6)

Figure 3 and Figure 4 Retroperitoneal tumor – Coronal section for tumor boundaries

Figure 5 and Figure 6 Retroperitoneal tumor

No secondary disseminations were found or changes in tumoral markers and the patient was prepared for surgery.

A pararectal abdominal surgical approach was chosen for this case. When opening the peritoneal cavity the tumor with irregular surface is highlighted and lying the right retroperitoneal area. The lower limit of the tumor is below the iliac crest, the upper boundary stretching to retrohepatic space without showing hepatic invasion.

Right kidney was evaluated intraoperative and no confirmed injuries to his level, excluding changes in position. It initially took off right colon and balancing angle liver, duodenal-pancreatic complex was previously taken off to the rear plane and mobilized to left side. In this way they have been exposed the large vessels at this point. The next step was to take off the tumor from the posterior wall of the abdomen to the spine. Not found right psoas muscle invasion as no metastases were detected visually and palpatory assessments to the abdominal viscera. Next step consisted of the vena cava dissection from the tumor, this was achieved by lumbar veins ligation and gradually releasing of vena cava from the back plane to the retrohepatic segment. Subsequently the tumor was released by progressive dissection, the difficulties are related to lumbar arteries that had been required hemostasis with thread in "X". Tumor enucleating is done, the specimen is sent for pathological examination. The intervention is concluded by installing drainage sub hepatic, right retroperitoneal and Douglas space.

Figure 7 Schwannoma - macroscopic appearance after surgery

Figure 8 Benign schwannoma – H&E stain 40x

Figure 9 Benign schwannoma – H&E stain

Figure 10 Benign schwannoma – H&E stain 200 x

The result of pathologic exam was benign

schwannoma. The patient evolution was favorable and he was discharged on postoperative day 10

Discussions

Retroperitoneal tumors are a rare group of diseases in surgical practice, they are heterogeneous histologically findings, that develops serious problems of diagnosis and treatment, especially because the space in which develops [1]. Most retroperitoneal tumors are malignant and recurrent. Macroscopic features of retroperitoneal tumors are dependent on the tissue of origin. A common point is the discovery of these tumors in advanced stages of development local, at large dimensions, at which time it is often difficult affirmation of belonging organ [5]. Histologically, most primitive retroperitoneal tumors derived from tissues of mesodermal origin. Clinically, the predominant symptom is abdominal pain which takes various aspects of tumor topography, dimensions and relations. Among the most representative clinical signs observed was a palpable abdominal tumor, usually bulky, other characters in tumors were less important in the diagnosis of retroperitoneal masses [8].

Computer tomography and magnetic resonance diagnostic tests remain the major high-fidelity imaging methods. The location, size, shape, reports and internal architecture of the tumor can be measured by means of their [4]. For benign schwannomas CT scan examination usually reveals well-defined tumor masses, they were round or oval shape with cystic degeneration and calcification appearance. MRI may reveal inhomogeneity of tumor and alternating degenerate cystic areas with solid areas [3]. Imaging differentiation between benign and malignant schwannomas is difficult, peripheral infiltrative aspect and inhomogeneity of tumor being met in both cases. Advocating for malignancy of the lesion is asymmetry and mitigating psoas shadow in the vicinity of the tumor [2, 6]. Also on clinical assessment the accelerated growth of the tumor

and appearance of related pain are suggestive of malignancy category.

The particularity of the cases is given by location of these tumors to the thoraco-retroperitoneal border. In this case the intervention began by abdominal approach, while also taking the necessary steps for a possible thoracotomy. In determining surgical tactics was considered the most important risk: damaging lumbar veins that were in tension because the tumor compresses and moves forward the inferior vena cava. The most important moment of dissection was the release of the inferior vena cava from rear plane just by steadily ligation of these veins [7].

Most of this kind tumors are benign, some may still have a malignant behavior in 10% of cases [12]. Malignant forms frequently develop distant metastases in the lung, liver and lymph nodes. To assess metastatic disease, tumor relapse or delayed occurrence of multiple primary tumors, annual biochemical testing and CT / MRI examination are required [10].

The distinction between benign and malignant cases is difficult, the only evidence of malignancy is the presence of metastasis or local invasion, while in localized tumors there are no absolute criteria for predicting malignant potential. This fact has the disadvantage that during reassessments some tumors that are initially classified as benign, its need to be reclassified as malignant following the detection of metastases [11].

Resistance to chemo- and radiotherapy of malignant schwannomas do that surgical treatment is the most important therapeutic option. Localizations on the border between the thorax and retro peritoneum cause technical problems with their surgical approach. We believe that the main abdominal approach provides a good control over their vessels and facilitates dissection of them by reducing the risk of intraoperative bleeding. Dissection of vessels must be conducted in such a way that when it comes to difficult areas (invasion, adherences) to have a good control of the proximal and distal extremity of the vessel to exclude and quickly repair damage [9].

Conclusions

We present this case considering that represent a rare variety in terms of the possibility of surgical practice. The peculiarity of the case is represented by a large tumor located in the right retroperitoneal space.

Clinical and laboratory data of these patients are highly variable and non-specific, whereas there are many asymptomatic, even in the case of large tumors. Retroperitoneal tumor diagnosis is not experiencing difficulties using ultrasound and CT scans, and the diagnosis certainly of this tumor is histological exam and immunohistochemical studies. First-line treatment is surgical - radical excision - because there are no clear microscopic criteria for distinguishing between benign and malignant forms.

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