

Anatomo-Clinical Analysis of 14 Consecutive Cases of Primary Cystic Mesenterico-Epiploic Tumors

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Rezumat

Studiu anatomo-clinic a 14 cazuri consecutive de tumori chistice mezenterico-epiploice primare

Introducere: Scopul acestei lucrări este evaluarea anatomo-clinică a tumorilor chistice mezenterico-epiploice primare pe baza unei experiențe de 15 ani a unei singure unități chirurgicale.

Material și metodă: Am efectuat un studiu retrospectiv al unei serii de 14 tumori chistice mezenterico-epiploice primare operate în Clinica Chirurgie 4 UMF Târgu-Mureș, România, în perioada 01.01.1997-01.01.2012. Datele despre acuzele clinice, aspectele imagistice, leziunile asociate, abordul chirurgical, rezultatul anatomo-patologic, evoluția postoperatorie imediată și tardivă au fost înregistrate și analizate folosind programul Microsoft Excel.

Rezultate: În toate cazurile s-a reușit excizia completă și intactă a tumorii, folosind un abord deschis în 13 cazuri și laparoscopic într-un caz. Nu am înregistrat nici un deces peri-operator și nici complicații chirurgicale semnificative; am înregistrat o singură recidivă la 1,5 ani postoperator. Diagnosticul anatomo-patologic nu a fost pus preoperator la

nici unul dintre cazuri; localizarea preoperatorie anatomică exactă a fost posibilă la un singur caz. Din punct de vedere anatomo-patologic, aceste tumori au fost: chiste de incluziune – 4 cazuri, chiste de duplicație enterală – 2 cazuri, chiste mezoteliale simple – 6 cazuri, limfangiom chistic – 1 caz și chist limfatic simplu – 1 caz. La toate cazurile s-a reușit excizia completă și intactă, pe cale deschisă (13 cazuri) sau laparoscopică (1 caz). Am sistematizat 3 tipologii clinico-imagistice în funcție de dimensiune, fără legătură cu originea histologică a tumorii.

Concluzii: Tumorile chistice mezenterico-epiploice primare sunt dificil de diagnosticat preoperator. Excizia completă este de regulă posibilă, chiar și la tumorile de mari dimensiuni. Aceste tumori relativ rare trebuie luate în considerare în diagnosticul leziunilor chistice abdominale.

Cuvinte cheie: tumoră chistică, mezenter, epiploon

Abstract

Background: The aim of this study is an anatomo-clinical evaluation of the primary cystic mesenterico-epiploic tumors, based on a single-center's 15 year experience.

Material and method: We performed a retrospective study of a series of 14 primary cystic mesenterico-epiploic tumors that were operated in the Surgical Department 4 UMF Târgu-Mureș, Romania, between 01.01.1997 and 01.01.2012. Data about the clinical complaints, imagistic aspects, associated

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lesions, surgical approach, hospitalization, pathology, and immediate and late postoperative course were recorded and analysed using the Microsoft Excel software.

Results: In all cases we performed a complete and intact surgical excision, using an open approach in 13 cases and laparoscopy in 1 case, with no mortality and no significant surgical-related morbidity; we have encountered a single recurrence at 1.5 years after surgery. We had no preoperative pathological diagnosis; the exact preoperative anatomic location of the tumor was possible only in one case. Pathologic examination showed the following types: inclusion cysts – 4 cases, enteric duplication cysts – 2 cases, simple mesothelial cysts – 6 cases, cystic lymphangioma – 1 case and simple lymphatic cyst – 1 case. We have systematized 3 clinico-imagistic patterns according to the dimension of the tumor, with no relationship to the histologic origin of the tumor.

Conclusions: Primary cystic mesenterico-epiploic tumors are difficult to diagnose preoperatively. Complete excision is usually possible, even for large tumors. These relatively rare tumors must be considered in the differential diagnosis of cystic abdominal masses.

Key words: cystic tumor, mesentery, omentum

Introduction

The mesenteric and omental structures are frequently approached in surgery for various reasons (1,2,3,4) but their primary tumor pathology is rare. Cystic mesenterico-epiploic tumors are a peculiar category causing a lot of debates regarding the histologic origin, classification, diagnosis and, last but not least, about their best management (5,6,7). The aim of this study is to perform an anatomo-clinical evaluation of the primary cystic mesenterico-epiploic tumors, based on a single-center's 15 year experience.

Method

We have performed a retrospective study on a series of 14 consecutive patients who were operated between 01.01.1997 and 01.01.2012 for primary cystic mesenterico-epiploic tumors in the Surgical Department 4, University of Medicine

and Pharmacy of Târgu-Mureș, Romania. Neither the patients with metastases, secondary direct involvement or non-cystic masses with omental or mesenteric location, nor the patients with cystic lesions located in other abdominal structures were included in this study. Most of the patients were females (M/F ratio 3/11) with ages ranging from 14 to 76 years.

Data about clinical complaints, ultrasound and CT appearance (Table 1), associated lesions, surgical approach, hospitalization, pathology, and immediate and late postoperative course were recorded and analysed using the Microsoft Excel software.

Results

Surgical approach

Surgical approach was made by median laparotomy in 13 cases and by laparoscopy in one case. In all cases we were able to perform a complete and intact removal of the lesion, without any major incident.

Mortality and morbidity

In this series we encountered no mortality and no surgery-related significant complications (one wound seroma solved by simple evacuation). One 76 year-old patient presented on post-operative day 5 an episode of atrial fibrillation which was solved by antiarrhythmic treatment.

Hospitalization

Hospitalization ranged between 3 and 15 days, with an average of 10 days; intensive-care unit hospitalization was necessary in 10 cases, without exceeding 2 days.

Resolution of the symptoms

Resolution of the symptoms occurred after surgery in 13 out of the 14 patients. One patient remained with episodes of unsystematized abdominal pain after surgery, resembling the preoperative complaints but at a lower intensity.

Late follow-up

At late follow-up (between 1-12 years) we encountered one asymptomatic recurrence; reoperation was refused due to the advanced age and significant cardiac comorbidities. One patient presented an incisional hernia and one died 2 years after surgery due to myocardial infarction.

Table 1. Details about the clinical signs and imagistic appearance

Clinical signs	US	CT scan appearance
- change in the shape of the abdomen: 7 cases	- performed in all cases	- performed in 10/14 cases
- palpable tumor: 8 cases	- cystic lesions: 10 cases	- cystic lesion: 9 cases
- abdominal pain: 9 cases	- one mobile lesion diagnosed	- no clear anatomical origin
- subocclusive syndrome: 4 cases	as mesenteric cystic tumor	of the lesion
- asymptomatic		
(discovered during surgery for other lesions): 4 cases		

Pathology

Pathologic examination of the excised specimens showed the following types: inclusion cysts – 4 cases, enteral duplication cysts – 2 cases, simple mesothelial cysts – 6 cases, cystic lymphangioma – 1 case and simple lymphatic cyst – 1 case.

Preoperative diagnosis and clinico-imagistic patterns

We had no preoperative pathology in any of our patients. The exact location in the mesenterico-epiploic structures was suggested in only one case by ultrasound examination. In most cases (10 patients) the preoperative diagnosis was that of “cystic abdominal mass of unknown origin” and in 4 patients with small-sized tumors (less than 5 cm) the lesion was discovered during surgery performed for other diseases.

We have systematized 3 clinico-imagistic patterns according to the dimension of the tumor:

- large dimension tumors (over 10 cm in diameter) with compressive effect, in which the anatomic origin is impossible to define preoperatively since they appear as a large cystic mass occupying a significant part of the abdomen (7 cases); (Fig. 1)
- medium-sized tumors (5-10 cm in diameter), in which the mobility during the ultrasound examination may suggest the mesenterico-epiploic origin (3 cases, only one diagnosed before surgery as located in the mesentery);
- small-sized tumors discovered by chance during surgery for other diseases (4 cases).

Discussions

The diagnosis of abdominal cystic mass is quite frequently encountered in current surgical practice and includes a wide array of lesions. Most cysts become apparent and require surgery due to compression, infection or malignancy (8,9,10). Surgical approach is extremely variable - from simple procedures such as laparoscopic excision of benign

Table 2. Classification of the mesenterico-epiploic cystic lesions according to their histologic origin (14)

1. cysts of lymphatic origin:
- simple lymphatic cyst
- lymphangioma
2. cysts of mesothelial origin:
- simple mesothelial cyst
- benign cystic mesothelioma
- malignant cystic mesothelioma
3. cysts of enteric origin:
- enteric cyst
- enteric duplication cyst
4. cysts of urogenital origin
5. mature cystic teratoma / dermoid cysts
6. pseudocysts:
- infectious
- posttraumatic

ovarian cysts to complicated procedures such as pancreaticoduodenectomy for cystadenocarcinoma of the head of the pancreas (11,12).

Primary tumors of the omentum and mesenteric structures are rare and show no large studies in the published literature (13); most of them are cystic and some of them may require a particular management (5,6). They are usually classified according to the histologic origin (Table 2) but there is no general consensus about terminology and their true proliferative nature (14).

Although the cystic nature is usually obvious on the ultrasound and CT scan if the lesion is large enough (15) and some features may suggest a certain histology (16), we were able to establish the anatomic origin of the cyst in only one case. From our experience, the presence of a mobile cystic mass should suggest the possibility of a mesenterico-epiploic cystic tumor.

If surgery is performed, the lesions should be completely excised in order to avoid recurrence and potential malignant

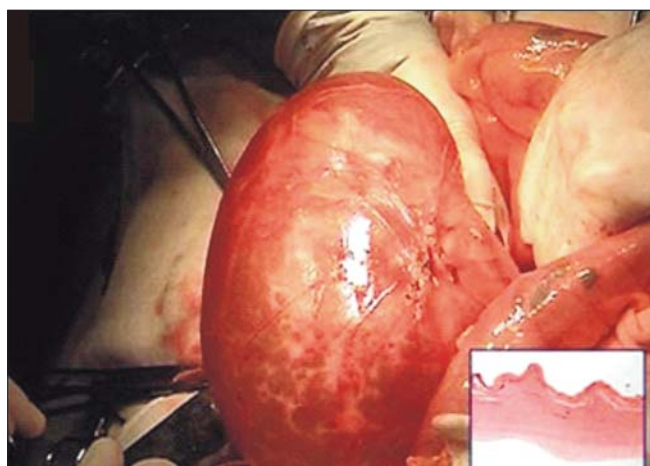
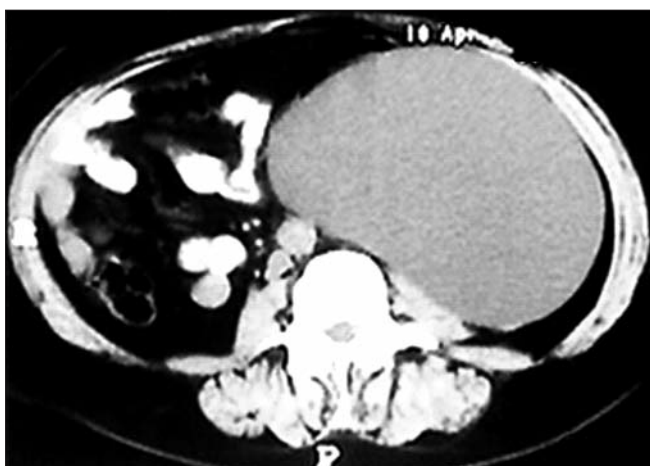


Figure 1. Large cystic mass occupying the left half of the abdomen (CT scan). Intraoperative image showing the lesion that was developed between the two folds of the mesosigmoid. Pathology: benign inclusion cyst

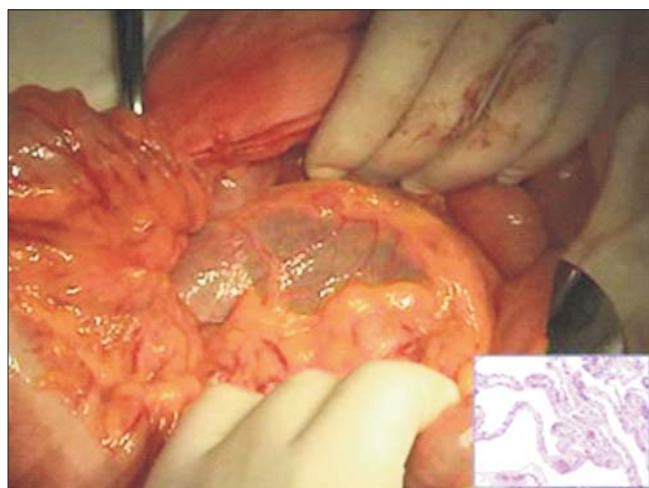


Figure 2. Large cystic mass in close contact with the duodenum, inferior vena cava and the right kidney – ultrasound and intraoperative image. Pathology: simple mesothelial cyst

transformation (5, 7). Even in large tumors, we found that they were well-delineated and presented a cleavage plane allowing a relatively easy dissection. Laparoscopy has emerged as a possible solution but is usually limited to small-sized lesions (17).

We were not able to find any correlation between the clinical signs and the pathology. The symptoms seem to be related more to the dimensions and location of the tumor with consecutive compression of the surrounding structures, but the small number of patients does not allow clear conclusions. Due to the rarity of these tumors, this problem may be approached only by multicenter studies.

Conclusions

Primary cystic mesenterico-epiploic tumors are a particular and rare entity. They are difficult to diagnose before surgery due to the non-specific symptoms and US/CT appearance; clinical signs depend on the dimensions and location, with no relationship to the histologic origin of the tumor. Complete excision with excellent immediate and late outcome is usually possible, even for large tumors. These relatively rare tumors must be considered in the differential diagnosis of the abdominal cystic masses.

Conflict of interests

Conflict of interests and source of funding: none.

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Figure 3. Small-sized cyst discovered and removed during a laparoscopic appendectomy

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