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Giant retroperitoneal lipomas – radiological case report

Normal fat deposits found in the retroperitoneal, perirectal and perivesical spaces may develop nonmalignant overgrowth and are recognized as a distinct clinicopathologic entity, abdomino-pelvic lipomatosis. It occurs predominantly in black males (male – female ratio 18:1) between 20 and 60 years of age, and may cause hypertension, gastrointestinal symptoms and urinary tract obstruction (7). The abnormal proliferation of fat is accompanied by varying degrees of fibrous reaction. Primary tumors of the retro peritoneum consist of neoplasms of various tissue types involving all three fasciae. Eighty-five percent of these tumors are malignant (13). All of them except the endocrine-secreting types are usually diagnosed very late. Embryonic rhabdomyosarcomas and neuroblastomas occur in pediatric patients, neurogenic and teratogenic tumors occur in patients under thirty, and mesenchymal and epithelial remnant tumors occur after the 4th decade (13). Fatty tumors such as the lipomas and liposarcoma are relatively common. Intratumoral calcification is frequently observed in neuroblastomas, ganglioneuromas, hemangiomas, and hemangiopericytomas. Larger tumors, particularly those with rapid growth, often show cystic degeneration. Good structural delineation due to the intact layer of fat and the absence of metastases is suggestive of a localized process, but does not exclude the possibility of malignancy. Infiltrative growth that breaches anatomical boundaries, bone destruction, and evidence of metastases in the lungs, liver, mesentery, or soft-tissue are unequivocal malignancy criteria. Vessel erosion with a resultant hemorrhage is rare. The malignancy of tumors is usually reflected as inhomogeneous density, which can be seen even on plain scans. The attenuation value reflects the nature of the tumor tissue, so it can help to distinguish the various sarcoma types.

CASES DESCRIPTION

First case. A 72-years woman (W.I., case history 59023) presented with a 4-weeks history of abdominal pain and sickness. Physical examination was normal except for a large, smooth, non-tender solid mass in the right upper quadrant. US demonstrated a 12 x 9 x 4-cm solid, homogeneous, hyperechogenic mass between the posterior abdominal wall and the right kidney and right lobe of the liver. The primary diagnosis was established as Tumor hepatitis. The CT showed a great mass of measurements between –80 and –100 Hounsfield units, filled right half of the abdominal cavity, with focal intratumoral calcifications. The right lobe of the liver, gallbladder, right kidney, and loops of the small intestine were dislocated and pressured to anterior abdominal wall (Fig. 1). The lower pole of the tumor was located in right iliac fosse (Fig. 2). It was easily dissected from the adjacent tissues and removed completely. The histopathological diagnosis was lipomas.



Fig. 1. CT scan obtained from a 72-year-old woman. Right lobe of the liver, gallbladder, right kidney and loops of the small intestine dislocated toward the front side. Intratumoral calcification exposed

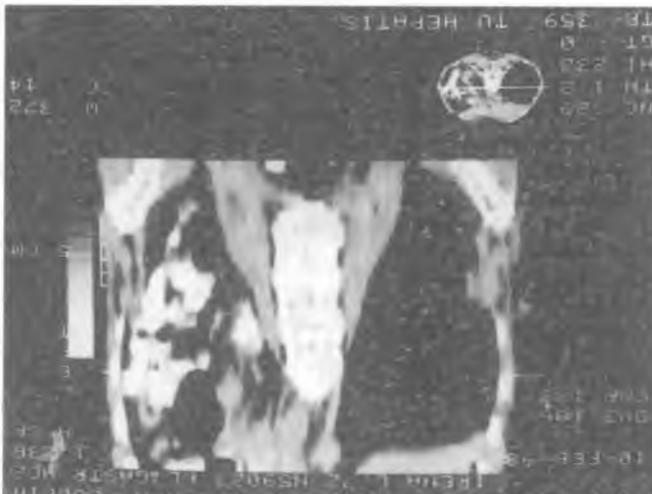


Fig. 2. Lipomatous tissue (lipoma) fills completely right retroperitoneal space and right iliac fossa

Second case. A 60-years woman (Ch. Z., case history 63580) had a 2-months history of pain and gastrointestinal symptoms. US demonstrated a 13 x 12-cm solid, homogeneous, hyperechogenic mass in right epigastria, below the liver (Fig. 3). The primary diagnosis was established as abdominal tumor. The CT showed lipomas with numerous septa and calcifications of measurements between – 20 and – 61 Hounsfield units filled right half of the abdominal cavity. Right kidney and loops of the small intestine were dislocated to the left side.

The root of the tumor seems to be connected with the mesentery of the small intestine (Fig. 4). The patient was treated surgically and remains well under regular follow-up.

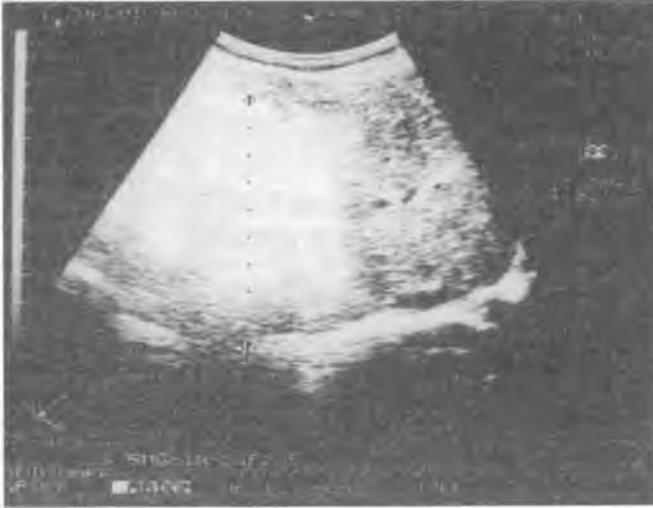


Fig. 3. Sonogram reveals solid mass in right epigastrium of a 60-year-old woman



Fig. 4. CT scan shows lipoma with numerous septa and calcifications. Right kidney dislocated and non visible in this projection

DISCUSSION

Comprised of mature adipose tissue, classic lipomas have CT and MR imaging signal characteristics similar to those of subcutaneous fat (8). On CT, classic lipomas generally have

Hounsfield unit measurements between –65 and –120 (apart from the thin and wispy soft-tissue density septa, although on occasional septa may be thick and nodular). The imaging findings are typical of a fatty mass – homogeneously radiolucent on plain radiographs (14), hyperechoic on US (2) and well-defined, homogeneous and low attenuation on CT (5,12). Ct occasionally demonstrates internal linear densities, which represent fibrous separations (2,12). These tumors are easily resected, malignant degeneration is unusual, and recurrences do not occur (3). However, patients with retroperitoneal lipomas should be followed up until more clinical experience has been acquired (15). Some authors see a close etiological connection between pelvic and retroperitoneal lipomatosis (6). In pelvic fibrolipomatosis, the amount of fibrous elements recedes in favor of fatty elements. The pelvis is entirely filled with fatty tissue, and symptoms of compression develop in the urinary bladder, the ureters, and the recto sigmoid (11). The clinical pictures include symptoms of constipation, dysuria and cystitis. Retroperitoneal lipomas with asymmetrical displacement of the intestines and fatty infiltration of the mesentery associated with Crohn's disease must be considered in the diagnosis (1) as well as multiple symmetric lipomatosis (4). The benign symmetric lipomatosis is frequently associated with alcoholism. After 150 years of history, many questions about its physiopathological mechanism are still unsolved (10). The ultrasound appearances of these lipomatous masses are presented for the first time by Loke et al. (9). Heterogeneous echogenic masses with fine fibrous strands that insinuate around fascial planes, lymph nodes and vascular tissues are typical findings.

CONCLUSIONS

Lipomatosis is a disease with variable clinical and radiological features. Careful follow-up is warranted for prevention and treatment of possible complications.

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SUMMARY

A 72-years woman presented with a 4-weeks history of abdominal pain and sickness. Physical examination was normal except for a large, smooth, non-tender solid mass in the right upper quadrant. US demonstrated a 12 x 9 x 4-cm solid, homogeneous, hyperechogenic mass between the posterior abdominal wall and the right kidney and the right lobe of the liver. The primary diagnosis was established as Tumor hepatis. The CT showed a great mass of measurements between - 80 and - 100 Hounsfield units; it filled right half of the abdominal cavity, with focal intratumoral calcifications. The right lobe of the liver, gallbladder, the right kidney, and loops of the small intestine were dislocated and pressured to anterior abdominal wall. The lower pole of the tumor was located in right iliac fosse. It was easily dissected from the adjacent tissues and removed completely. The histopathological diagnosis was lipomas. The next case was a 60-years woman with a 2-months history of pain and gastrointestinal symptoms. US demonstrated a 13 x 12-cm solid, homogeneous, hyperechogenic mass in right epigastria, below the liver. The primary diagnosis was established as abdominal tumor. The CT showed lipomas with numerous septa and calcifications of measurements between -20 and -61 Hounsfield units filling the right half of the abdominal cavity. The right kidney and loops of the small intestine were dislocated to the left side. The root of the tumor seems to be connected with the mesentery of the small intestine. The patient was treated surgically and remains well under regular follow-up.

Olbrymic guzy zaotrzewnowe – radiologiczny opis przypadków

Opisano dwa przypadki olbrzymich guzów zaotrzewnowych, dających dość słabe objawy kliniczne i trudnych w diagnostyce. Przypadek pierwszy: chora lat 72, z 4-tygodniowym wywiadem bólowym w jamie brzusznej i nudnościami. Badaniem fizykalnym stwierdzono duży, gładki, nienapięty i jednorodny twór w prawym, górnym kwadrancie jamy brzusznej. Badanie USG wykazało obecność homogenicznej i hyperechogenicznej tkanki, o wymiarach 12x9x4 cm, między tylną ścianą brzucha a prawą nerką i prawym płatem wątroby. Pierwotną diagnozą był guz wątroby. TK wykazała obecność masy guza, sięgającego do prawego dołu biodrowego o gęstości -80 -100 j.H. z ogniskową obecnością zwapnień. W czasie zabiegu operacyjnego guz dał się łatwo i kompletnie wyluszczyć. Wynik badania his-pat: tłuszczak. Przypadek drugi: u chorej lat 60 z 2-miesięcznym wywiadem gastrycznym wykonano badanie USG, które wykazało obecność jednorodnej masy o wymiarach 13x12 cm, w prawym nadbrzuszu, poniżej wątroby. Z rozpoznaniem *tumor abdominis* wykonano TK, która wykazała obecność masy tłuszczowej o gęstości -20 -61 j.H., wypełniającej prawą połowę jamy brzusznej i przesuwającej na lewo jej narządy. Nasada guza wydawała się silnie połączona z korzeniem krzywki jelita cienkiego. Usunięcie chirurgiczne tłuszczaka przebiegło bez powikłań. Obie pacjentki pozostają pod kontrolą ambulatoryjną.