

dalni limfom z 80—90 % zanesljivostjo, še posebno, če so bezgavke večje od 1,5 do 2 cm v premeru.

Brascho poroča o 98 % uspehu. Pogoji za tako dobre rezultate so velike izkušnje in dobra tehnična oprema.

Ultrazvočna preiskava je zato v precejšnji meri nadomestila klasične rtg preiskave: limfografijo, kavografijo, i. v. urografijo, še posebno, ker je hitreje izvedljiva, neinvazivna, neboleča, neškodljiva in poceni. Istočasno lahko pregledamo celotni abdomen. Sumljive spremembe lahko tudi punktiramo in damo material v oceno citologom.

Z ultrazvočno preiskavo lahko ugotovimo povečanje bezgavk, ne moremo pa dokazati znotraj njih ev. manjših infiltratov. Te pa dobro prikaže limfografija. Zato je potrebno pri negativnem ultrazvočnem izvidu napraviti še limfografijo.

S ponovnimi ultrazvočnimi pregledi lahko uspešno spremljamo dinamiko obolenja po terapiji. Za merilo nam je velikost bezgavk, ne pa transoničnost.

Povečanje vranice in povečanje njene transoničnosti je sumljivo za obolenje organa. Pri obolenju jeter vidimo infiltrate večje kot 5 mm kot hiposonične oziroma cistoidne fokalne parenhimske defekte. V manj kot 3 % so podobno prizadeta tudi ledvica.

V 15 % zajame non-Hodgkin limfom gastrointestinalni trakt in se manifestira kot relativno hiposonična masa s centralno zgostitvijo. V 10 % je prizadet pankreas.

Povečanje paraaortalnih bezgavk izgleda v večini primerov kot dobro omejena poliklična ekspanzivna formacija z veliko transoničnostjo. Zato je tudi meja z aorto in veno cavo inferior zabrisana. Lahko pa so žile tudi dislocirane. Značilna je dislokacija arterije mezenterike superior navzpred.

Metastaze malignih obolenj v retroperitonealnih bezgavkah se ultrazvočno skoraj ne dajo ločiti od infiltratov malignega limfoma. Metastaze tumorja moda, ovarija, uterusa in prostate dajejo v nekaterih primerih le nekoliko intenzivnejše odboje ultrazvoka kot maligni limfom.

Perkutana aspiracijska biopsija pod kontrolo ultrazvoka uspešno razjasni etiologijo sprememb.

Patološki procesi, ki dajejo v retroperitonealnem prostoru podobne ultrazvočne slike so primarni retroperitonealni tumorji, hematomi, aortne anevrizme, abscesi, limfome in retroperitonealna fibroza. Zaradi majhnega števila pregledanih bolnikov z malignim limfomom ne moremo točno oceniti uspešnosti ultrazvočne preiskave pri nas, vendar izgleda, da se približujemo vrednostim, kot jih navajajo v literaturi.

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DIAGNOSTICS OF MALIGNANT LYMPHOMAS — COMPUTED TOMOGRAPHY

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Introducing of CT as a diagnostic procedure for evaluation of the retroperitoneal lymph nodes, as well as for establishing changes in other organs, not only improved the detection and evaluation of Hodgkin, non-Hodgkin and other lymphomas, but also promoted therapy planning and assessing of treatment response.

By the help of this examination modality all normal and altered lymph nodes of

the whole abdomen can be presented, as well as the size, shape and internal structure of organs (liver, spleen, kidneys) determined.

The lymph nodes up to 1 cm of size are considered to be normal, however, this does not exclude false-negative findings, particularly in the mesenteric area. CT is regarded as a less invasive diagnostic procedure, but nevertheless, it shouldn't be

neglected that it implies the use of X-rays, as well as i.v. and oral contrast media (1, 2).

The Institute of Rentgenology of the University Clinical Center disposes of Siemens' Somatom 2 device. The thickness of sections is usually 8 mm, with advance of 16 mm from the diaphragm to symphysis. Examinations of retroperitoneal lymph nodes imply the use of oral contrast media. Patient takes the contrast medium 60—90 minutes before the examination; This excludes the possibility of misinterpreting the intestinal loops for possible enlarged lymph nodes. In some cases an i.v. injection of contrast medium is administered additionally, in order to locate the aorta, vena cava inferior and azygos vein, as well as to present liver and spleen parenchyma.

The liver, spleen and upper paraaortic lymph nodes up to the cysterne chyli cannot be presented by classical radiographic methods and lymphography. All these anatomic structures, as well as eventual changes in them, can be evaluated by CT examination of the abdomen.

Poorly developed interorganic fat, specially retroperitoneal, makes the early diagn diagnosis of lymph nodes more difficult. The lymph nodes aresituated along the aorta and iliacal veins, on the side of the vena cava inf., upper mesenteric veins and tripus caliacus. The vena cava inf. and aorta are clearly visible because of the retroperitoneal fat up to the bifurcation. Often it can be observed that the angle between the aorta and left psoas muscle is not clear; in such case not only enlarged lymph nodes but also a part of duodenum or small intestine may be presented.

Enlarged paraaortic lymph nodes are imaged as discrete solitary or conglomerate masses which can present also: empty bowel loops, retroperitoneal hematoma, left-sided vena cava inf., crura of the diaphragm, re:roperitoneal fibrosis.

Enlarged lymph nodes between the stomach and aorta, i. e. celiac, peripancreatic and all lymph nodes in the hili, represent a special problem due to their location. Even more difficult is the localization of enlarged lymph nodes in the pelvic region.

Dim contour of iliopsoas muscle and asymmetric density of the tissue along the iliac veins together with reduced fat tissue can be interpreted as enlarged pelvic or obturator lymph nodes.

Infiltration of the mesenteric lymph nodes can be observed more often in non-Hodgkin than in Hodgkin lymphomas. Small mesenteric lymph nodes cannot be imaged by CT. The size of mesenteric lymph nodes ranges from discrete to large lesions.

CT examination may exclude an involvement of the liver and spleen. The late is imaged as a solitary or difuse infiltration of parenchime, with deformation and enlargement of the involved organ.

Very often the enlarged spleen does not evidence a presence of lymphoma. On the other hand, spleens of normal size may exhibit altered parenchime with inlets of malignant tissue. CT examination of the abdomen does not enable distinguishing between the lymph nodes enlarged due to lymphadenitis and malignantly altered lymph nodes.

Can CT substitute for lymphography?

CT represents an alternative in cases when lymphography is contraindicated either because of the difficulties associated with its technical performance, or due to an obstruction caused by a large tumor.

Our experiences with CT are relatively poor, as this method has been used in our Institute for one and a half years only.

Examined were 25 patients. Enlarged retroperitoneal lymph nodes were found in 10 of them. Enlarged and altered spleen was established in 1 patient. Fifteen examinations gave negative results. One patient had a tumor of the liver detected.

References

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2. Castellino R. A., Marglin S., Carrol B., Young S., Harell G., Blank N.: The radiographic evaluation of abdominal and pelvic lymph nodes in oncologic practice. *Cancer Treat. Rev.* 3, 7, (1980), 153—160.