

THE LEADING ROLE OF COMPUTER TOMOGRAPHY FOR THE DIAGNOSE OF KRUKENBERG TUMOR WITH A TYPICAL SYMPTOMATOLOGY

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I. INTRODUCTION

The first description of this type of tumor was made in 1896 by Friedrich Krukenberg.

There is a renaissance and expanded discussion of the subject in articles posted over the recent year. There is no uniformity as regards to the incidence of the disease. The figures vary from 0,16 % in 100000 people to 10% (1, 2). In addition to the known primary foci in the stomach and the column, the formation of Krukenberg tumor occurs in some primary locations in the lung, mammary glands, pancreas, etc. (3, 4). There are reports that highlight the difficult differentiation between the Krukenberg tumor and primary ovarian tumor (5, 6, 7). What is sought are the most appropriate CT reports as well as the characteristic CT image and the clinical presentation of the course (8, 9). In the bibliography available we found no report for the launch of the clinical presentation of Krukenberg tumor with haematuria.

II. OBJECTIVE

The objective of this examination is to analyze both the clinical and the physical aspects of the examination and findings of this rare disease. The main objective of the clinical analysis is to evaluate the role of CT as a diagnostic method for Krukenberg tumors, while the physical aspect of the study is targeting an assessment of the patient dose and a comparison of the results with European reference values in order to achieve an CT dose optimization.

III. RESULTS

The diagnostic equipment used during the examinations consists of 2 multi-detector scanners – 16 and 64 slice, with individual peripheral collimation of 0,25 and central 0,65. The total detector collimation is 1,5 mm, x-ray beam – 20 mm, gentry rotation 0,5 sec and pitch 0,98.

We report a female patient, aged 48, whose disease onset occurred with haematuria and load in the low back. Hydronephrosis of the right kidney and hydroureter without establishing the reason for the change were found upon an ultrasound scan of the abdominal area. The anamnestic data showed that subtotal resection of the stomach and duodenum was performed with latero-lateral anastomosis with jejunum on the occasion of histologically established gastric carcinoma 16 months ago. When a preventive gynecological examination and transvaginal ultrasound scan were performed, a cyst in the right ovary was found subject to ultrasound scan. CT scan of abdomen and pelvis was carried out with intravenous contrast enhancing performed with oral contrasting. From the scan: a multi-chamber formation of irregular shape was found which size was 50/48 mm originating from the right ovary (fig.1).



Fig. 1. A multi-chamber formation of irregular shape

This formation extends to the wall of the sigmoid colon, transverse colon and the lower third of the right ureter (fig. 2).



Fig. 2. Extension of the formation

The formation has a highly variable density from the center to the periphery from 56HE to 17 HE and unevenly thick walls of non-sharp contours and density of 60HE at the native exam. Contrast agent passes through the wall to 75HE and through the cyst itself - to 68HE. The right kidney is hydronephrotic with delayed release of contrast agent at the 4th hour and hydroureter up to the upper two thirds of the ureter (fig. 3).

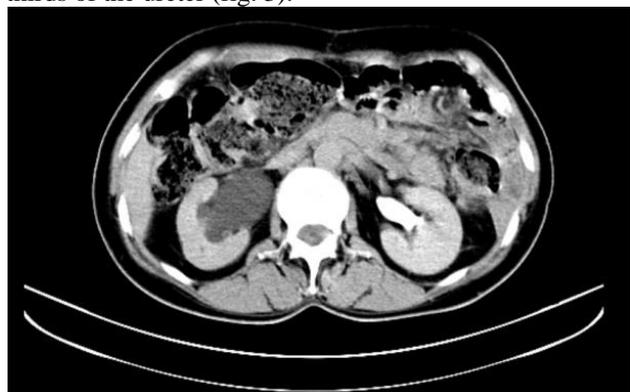


Fig. 3. A view of the hydronephrotic right kidney

The distal and intramural part of the ureter are intact. Parenchymal cyst was found in the right kidney, 13 mm and density of 4HE. The liver is of normal size and density with the presence of a simple cyst in the right lobe, size 58/43 mm. An enlarged uterus. No involved lymph nodes are observed. Other parenchymal organs do not show signs of deviation. After the surgical intervention Krukenberg tumor was found histologically.

IV. CONCLUSION

The case raises interest because of its atypical clinical presentation starting with only hematuria, which has become an occasion to identify the cause for its occurrence - an advanced Krukenberg tumor complicated with hydronephrosis and hydroureter.

An optimization of the examination protocols is needed in order to reduce patient dose in this very sensitive body area.

V. REFERENCES

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