Four bilateral synchronous benign and malignant kidney tumours: A case report

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SUMMARY

Synchronous occurrence of benign and malignant kidney tumours is very rare. We present the case of a 63-year-old female patient who underwent a bilateral partial nephrectomy after being diagnosed with bilateral kidney tumours by ultrasonography and a computed tomography scan. Histopathological analysis of the left kidney tumour mass revealed a chromophobe renal cell carcinoma. In the right kidney specimen clear cell renal cell carcinoma was found along with a small angiomyolipoma and renomedullary interstitial cell tumour. There were no indications for subsequent chemotherapy. At present, three years after the surgery, the patient has had no signs of relapse and maintains normal renal function.

Keywords: bilateral kidney tumours – renal cell carcinoma – angiomyolipoma

Čtyři bilaterální synchronní benigní a maligní nádory ledviny: kazuistika

SOUHRN

Synchronní prezentace benigních a maligních nádorů ledviny je velmi vzácná. Představujeme případ 63leté ženy, která podstoupila bilaterální parciální nefrektomii poté, co jí bylo vysloveno podezření na oboustranný výskyt renálního tumoru sonografickým vyšetřením a CT. Histopatologické vyšetření levé ledviny prokázalo chromofobní renální karcinom. V resekátu pravé ledviny byl nalezen světlobuněčný karcinom z renálních buněk společně s malým angiomyolipomem a renomedulárním intersticiálním nádorem. Následná chemoterapie nebyla indikována. V současnosti je pacientka bez známek relapsu a udržuje normální renální funkce.

Klíčová slova: oboustranné nádory ledvin – karcinom z renálních buněk – angiomyolipom

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Renal cell carcinomas (RCCs) are the most common renal neoplasms, accounting for 85% of all kidney tumours and representing 2.6 % of all malignancies (1). The most common subtypes of RCCs are clear cell renal cell carcinoma (CCRCC), papillary renal cell carcinoma and chromophobe renal cell carcinoma (CHRCC) (2).

The most common mesenchymal neoplasms of the kidney are angiomyolipoma (AML) and renomedullary interstitial cell tumours (RMICT) (3).

Synchronous occurrence of kidney tumours is very rare, accounting for up to 6% of all patients with sporadic enhancing renal masses (1). Synchronous occurrence of benign and malignant kidney tumours is even more rare (4-6). We present a case of bilateral synchronous RCCs (CCRCC and CHRCC) associated with AML and RMICT.

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CASE REPORT

An asymptomatic 63-year-old female patient underwent a routine abdominal ultrasound examination that revealed bilateral kidney tumours. Subsequent computed tomography scans confirmed a hypo-vascular tumour mass in the inferior pole of the left kidney measuring 2.5 cm in diameter. In the mid-portion of the right kidney a solid tumour mass measuring 4.5 cm in diameter was found. There was no visible metastasis nor invasion of renal veins and the vena cava.

The patient's tumour family history was negative. She had a history of high serum cholesterol levels and was treated with statins. Around forty years ago, during two pregnancies she was treated for pyelonephritis.

A bilateral partial nephrectomy was performed. The left-sided biopsy specimen measured 2.7 cm at its greatest diameter, contained a well-demarcated, yellowish tumour that measured 2.5 cm in diameter. Histologically, the tumour was encapsulated, composed of nests of atypical epithelial cells with distinct cell borders, eosinophylic cytoplasm, wrinkled nuclei and perinuclear haloes. The diagnosis of CHRCC was made (Fig. 1).

The right-sided biopsy specimen measured 5 cm at its greatest diameter and contained a well-demarcated yellowish tumour measuring up to 4.0 cm in diameter with foci of haemorrhaging and approximately 20% necrosis. Histologically, the tumour was encapsulated, composed of atypical epithelial cells with clear,

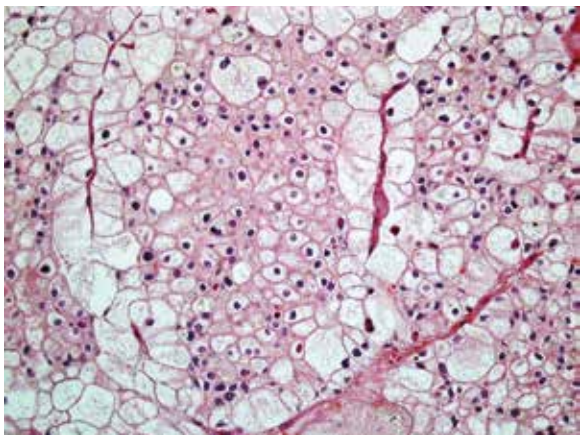

Fig. 1. Chromophobe renal cell carcinoma composed of nests of atypical epithelial cells with distinct cell borders, eosinophilic cytoplasm, wrinkled nuclei and perinuclear halos (hematoxylin and eosin, magnification x400).

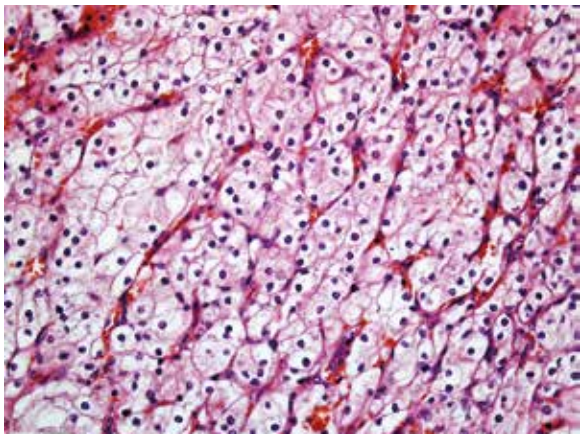

Fig. 2. Clear cell renal cell carcinoma composed of atypical epithelial cells with clear, abundant cytoplasm with compact growth pattern (hematoxylin and eosin, magnification x400).

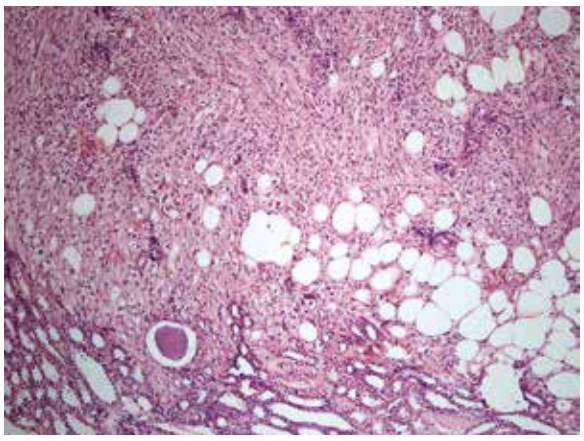

Fig. 3. Angiomyolipoma composed of spindle cell bundles, mature fat cells and blood vessels (hematoxylin and eosin, magnification x100).

abundant cytoplasm and prominent nucleoli, showing compact, tubulocystic and alveolar growth patterns, considered to be Fuhrman grade 2 CCRCC (Fig. 2). Near the CCRCC there was a small round tumour (measuring 0.3 cm in diameter), histologically composed of uniform spindle cell bundles, mature fat cells and blood vessels, diagnosed as AML (Fig. 3). On the resection

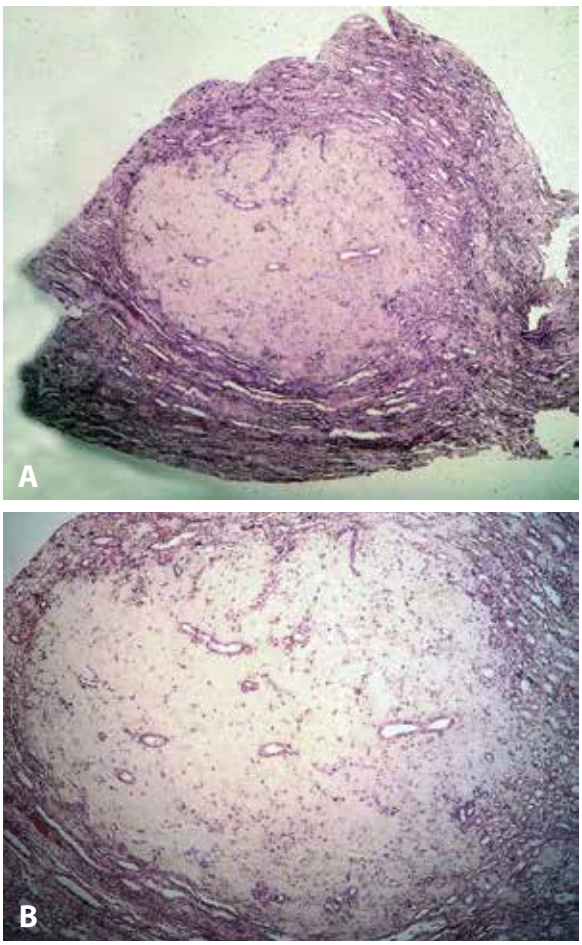

Fig. 4. A well-demarcated renomedullary interstitial cell tumour composed of hypocellular stroma and normal-appearing renal tubules (hematoxylin and eosin; A and B: magnifications 40x and 100x, respectively).

surface of the same specimen an additional well-demarcated tumour measuring 0.3 cm in diameter was found, histologically composed of acellular stroma and normal appearing tubules. The diagnosis was RMICT (Fig. 4A, B). There was no tumour vascular invasion. Paracaval lymph nodes were free of tumour.

The patient presented with stage 1 disease with CCRCC, therefore there was no indication for subsequent chemotherapy. At present, three years after the surgery, the patient has had no signs of relapse and maintains normal renal functions.

DISCUSSION

Concerning the synchronous occurrence of bilateral benign and malignant renal tumours, the most frequently reported is the occurrence of AML in association with RCCs (approximately 60% of cases reported in the literature). The commonest RCC is CCRCC and the second is CHRCC. Most patients with bilateral renal tumours are in the 6th decade of life (5-10).

There are few cases reporting the synchronous occurrence of two malignant tumours along with benign kidney tumours. Concerning the RCC subtypes, the case most similar to ours was described by Jun et al. (9). The authors reported a synchronous occurrence of CCRCC, CHRCC and epitheloid pigmented type of AML in one kidney. This is the only case of its type reported in the literature.

Nephron-sparing partial nephrectomy is generally advised for bilateral renal masses. Results achieved with nephron sparing

surgery are similar to those of radical nephrectomy, but a disadvantage is the rate of local recurrence of 3 to 6% (6).

In the largest study of bilateral RCCs performed by Becker et al. (7) including 101 patients, synchronous and metachronous tumors were analyzed. There were 43 patients (42.6%) with synchronous and 58 (57.4%) patients with metachronous tumors. It was shown that patient survival did not differ significantly when considering synchronous or metachronous tumour occurrence, tumour subtype, stage, tumour size and grade. Other studies support this finding showing that the cancer-specific survival in patients with bilateral RCC is most likely determined by the tumour with the worst prognostic features. The pathological stage is an independent predictor of disease-specific survival (5-7).

To our knowledge, this is the first case of synchronous occurrence of CCRCC, CHRCC, AML and RMICT described in the literature.

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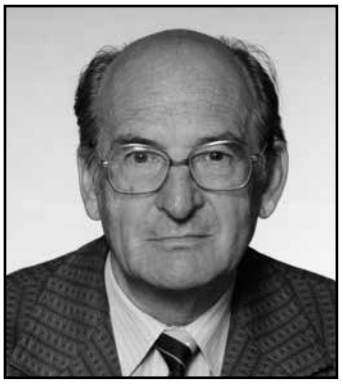
ZPRÁVA



Doc. MUDr. Boris Ondruš, CSc. (12.2.1924 – 21.4.1995)

K nedožitým 90. narodeninám emeritného primára Ústavu patologickej anatómie LF UK a FN v Bratislave 12.2.2014 by sa dožil 90. rokov emeritný primár Ústavu patologickej anatómie LF UK a FN v Bratislave.

Doc. MUDr. Boris Ondruš, CSc., začal svoju profesionálnu dráhu v r. 1948 na vtedajšej prosektúre štátnej nemocnice v Bratislave ako sekundárny lekár. Po roku práce sa stal asistentom a neskôr odborným asistentom na LF UK. V roku 1956 úspešne absolvoval atestačnú skúšku v odbore. Od r. 1964 nastúpil do funkcie primára na Ústave patologickej anatómie FN, v ktorej pôsobil vyše 25 rokov. Bol krajským odborníkom a členom poradného zboru hlavného odborníka MZ. V r. 1979 obhájil kandidátsku dizertačnú prácu a v r. 1992 habilitoval v odbore patologická anatómia a súdne lekárstvo.

Doc. MUDr. B. Ondruš, CSc., sa podieľal na tvorbe učebných textov pre poslucháčov lekárskych fakúlt, spolupracoval na vedeckých projektoch najmä s Urologickou klinikou LF UK a Ústavom experimentálnej onkológie SAV. Na konci svojej profesionálnej dráhy patril k najstarším a zároveň najváženejším nestorom slovenskej patológie. Slovenskí, ale aj českí patológovia obdivovali jeho erudíciu a suverénnosť v bioptickej – najmä onkologickej diagnostike. Je azda iróniou osudu, že práve on zomrel na malígne ochorenie, ktorému vo svojej bioptickej práci patológa venoval celý svoj život.

Za svoju dlhoročnú prácu dostal v r. 1989 Zlatú medailu LF UK a v r. 1990 Zlatú medailu Slovenskej lekárskej spoločnosti. Okrem odbornej práce patológa bolo všeobecne dobre známe a rešpektované jeho celoživotne rozvíjané jazykovedné zameranie a prekladateľská činnosť, ktorým dokumentoval svoju lásku k rodnému jazyku. Menej známa je skutočnosť, že bol vášnivým tvorcom krížoviek, ktoré publikoval v rôznych časopisoch a ktorými veľmi rád potrápil aj najbližších spolupracovníkov. Statočnosť, spoľahlivosť, zmysel pre detail a pre zodpovednosť v každej odbornej práci a rozvíjanie dobrých medziľudských vzťahov na pracovisku boli jeho charakteristické črty, ktoré ľuďom okolo neho imponovali. Jeho jemný sarkastický humor sa navždy zapísal do pamäte ľudí, ktorí mali možnosť s ním žiť a spolupracovať. Pre slovenských a českých patológov bol a ostal doc. MUDr. Boris Ondruš, CSc., človek vysokých odborných a morálnych kvalít. Vďaka pán docent za nespočetné množstvo rád pri riešení bioptických a nekroptických rébusov, ktoré ste tak rád rozdával mladším kolegom.

Ľudovít Danihel a kolektív
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