

CASE REPORT**Extrarenal Wilms tumor mimicking funicular hydrocele**

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Summary

Introduction/Objective: Extrarenal Wilms’ tumor (ERWT) comprises 0.5% to 1% of all nephroblastoma cases. The most common locations of ERWT are the retroperitoneum, inguinal, lumbosacral and pelvic region, female genital organs, mediastinum and chest wall, spermatic cord and paratesticular region. ERWT most likely originates from the ectopic nephrogenic rest that undergoes a malignant transformation. The exclusion of primary renal tumor is necessary to establish the diagnosis of ERWT.

Patient Review: A 15-month-old male was operated on because of a left-sided inguinal mass that clinically resembled a funicular hydrocele. The surgical exploration of the inguinal canal revealed a solid tumor located in the area of the external inguinal ring, measuring around 2cm in diameter, with no inguinal hernia present. Complete surgical resection of the mass was performed. The histological structure of the tumor corresponded to non-anaplastic nephroblastoma (Wilms tumor), mixed type. After abdominal CT scan primary renal tumor was excluded and the diagnosis of ERWT was made. Because of microscopic tumor rests on the resection margin, the patient was treated according to the high-risk SIOP Wilms tumor protocol. The patient made a full recovery. During the 10-year follow-up, the boy has remained disease-free.

Conclusion: ERWT is mostly diagnosed after the surgical removal of the specimen. The clinical resemblance of the ERWT located in the inguinal region to common benign inguinal conditions in children may lead to the omission of detailed preoperative work-up. Most children with ERWT in the inguinal region have an excellent prognosis, although most of them require adjuvant chemotherapy and/or radiotherapy after surgery.

Keywords: extrarenal Wilms tumor, inguinal region, funicular hydrocele

INTRODUCTION

Extrarenal Wilms tumor (ERWT) is a rare entity with the occurrence rate of 0.5% to 1% in all nephroblastoma cases (1). It was first described by Moyson et al. in 1961 (2) and since then only case reports and small case series describing ERWT were published. There are about a hundred cases of ERWT presented in literature. The most common locations of ERWT are the retroperitoneum, inguinal area, lumbosacral and pelvic region, female genital organs (including the uterus, cervix, vagina, and ovaries), mediastinum and chest wall, and spermatic cord and paratesticular region (1,3–12).

The pathogenesis of ERWT remains controversial. The most accepted theory claims that ERWT originates from the ectopic nephrogenic rest (ENR) that undergoes a malignant transformation. The nephrogenic rests originate from metanephric blastema that persists after 36 weeks gestational age. Besides, the inguinal and scrotal locations of ENR suggest that the origin might also be mesonephric tissue (1,13,14). ENR can undergo spontaneous regression, become dormant, or progress towards hyperplastic proliferation. Fortunately, the malignant transformation happens only in the minority of

ENR (15). ERWT may also develop as a part of teratoma. However, since teratoid ERWT is derived from primordial germ cells, most authors consider it a different entity from isolated ERWT (1,14).

The diagnosis of isolated ERWT relies on three criteria: histopathological finding of Wilms tumor in extrarenal location, exclusion of primary renal neoplasm, and no evidence of teratoma elements within the tumor (16,17).

There is no specific staging system for ERWT. Most authors use the National Wilms Tumor Study Group staging system modified for ERWT (Table 1) (14,16,18).

Table 1. Modified National Wilms Tumor Study (NWTs) staging system for ERWT (16)

Stage I	Tumor contained within capsule; complete excision Tumor capsular surface intact; no residual tumor apparent beyond the margins of resection
Stage II	Tumor extends beyond capsule but is completely excised Regional extension of tumor; tumor biopsied or local spillage of tumor, no residual tumor apparent at or beyond the margin of excision
Stage III	Residual tumor; lymph node involvement, peritoneal contamination by tumor spillage or peritoneal implants; tumor not completely removable because of local infiltration into vital structures
Stage IV	Distant metastases

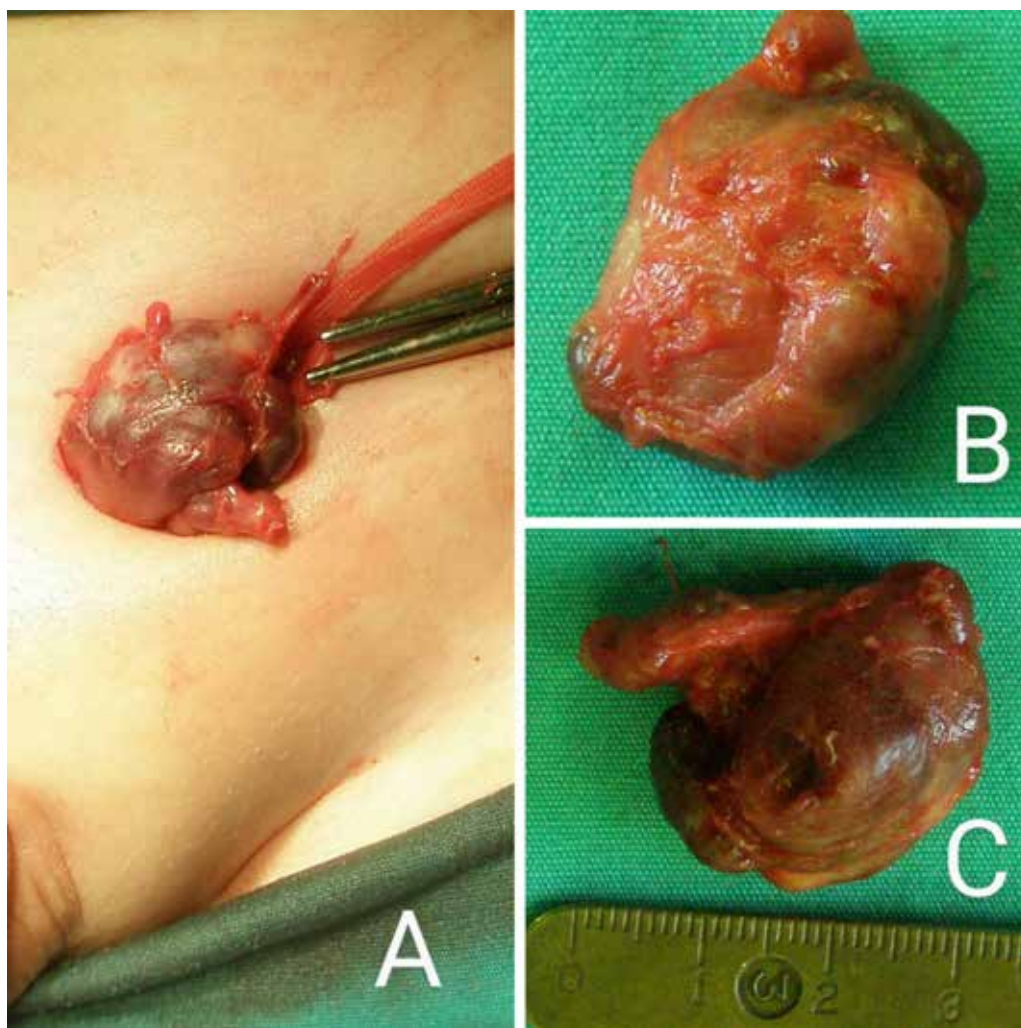


Figure 1. A. Intraoperative finding of the tumor mass located in the area of the external inguinal ring. Figure B, Figure C. Macroscopic appearance of the resected tumor.

CASE REPORT

A 15-month-old male was admitted to the Department of Abdominal Surgery for the operative treatment of the left inguinal mass which clinically resembled a funicular hydrocele. The mass was noticed by the boy's parents a month before admission. Otherwise, his general past medical history was unremarkable. The non-reducible and non-tender mass was located in the left inguinal region, with approximate dimensions of 2x3 cm. The physical examination on admission showed no other abnormalities. As the clinical findings strongly pointed to funicular hydrocele, no further diagnostics were performed. The surgical exploration of the left inguinal canal revealed a tumor located in the area of the external inguinal ring (Figure 1A). No inguinal hernia or funicular hydrocele were present. A macroscopic complete resection of the mass with the preservation of the spermatic cord was performed. The child recovered uneventfully and was discharged on the second postoperative day.

The tumor weighed 5.2 grams and had dimensions of 2.6x2.2x1.5 cm, with a slightly lobulated surface (Figure 1B and Figure 1C). On cross-section, the tumor tissue had a multinodular structure, brown-grey color, and soft-elastic consistency. According to the protocol of the International Society of Pediatric Oncology "Nephroblastoma Clinical Trial and Study - SIOP WT 2001" for tumors resected without preoperative chemotherapy, the histologi-

cal structure of the tumor fully corresponded to Wilms' tumor, non-anaplastic, mixed type, which is classified into a group of childhood kidney tumors of intermediate prognostic risk. The borders of the tumor growth were very sharp, without signs of infiltrative growth, although no capsule was formed (Figure 2A). There was a characteristic triphasic histological feature of the tumor with nodules of dense, small, blastemic cells with rare, focal differentiation into an epithelial component in the form of immature tubular structures. Among these structures there was a highly collagenized, stromal component of the tumor with individual, better differentiated, tubular, epithelial structures (Figure 2B). There was no anaplasia of tumor cells nor necrosis of tumor tissue. However, tumor elements were found in dilated venules on the periphery of the section (Figure 2C). Outside the tumor nodule, near the specimen resection margin, tiny lobules of mature fatty tissue and several small islands of immature glomeruloid structure, corresponding to ectopic nephrogenic remnants were found (Figure 2D). There were no elements of teratoma within the tumor.

The primary renal tumor was excluded by an abdominal CT scan. Chest x-ray was free of lung metastases. In addition, a CT scan of the left inguinal region showed heterodense formation which could be attributed to post operative hypervascularity, but the local residual disease could not be excluded.

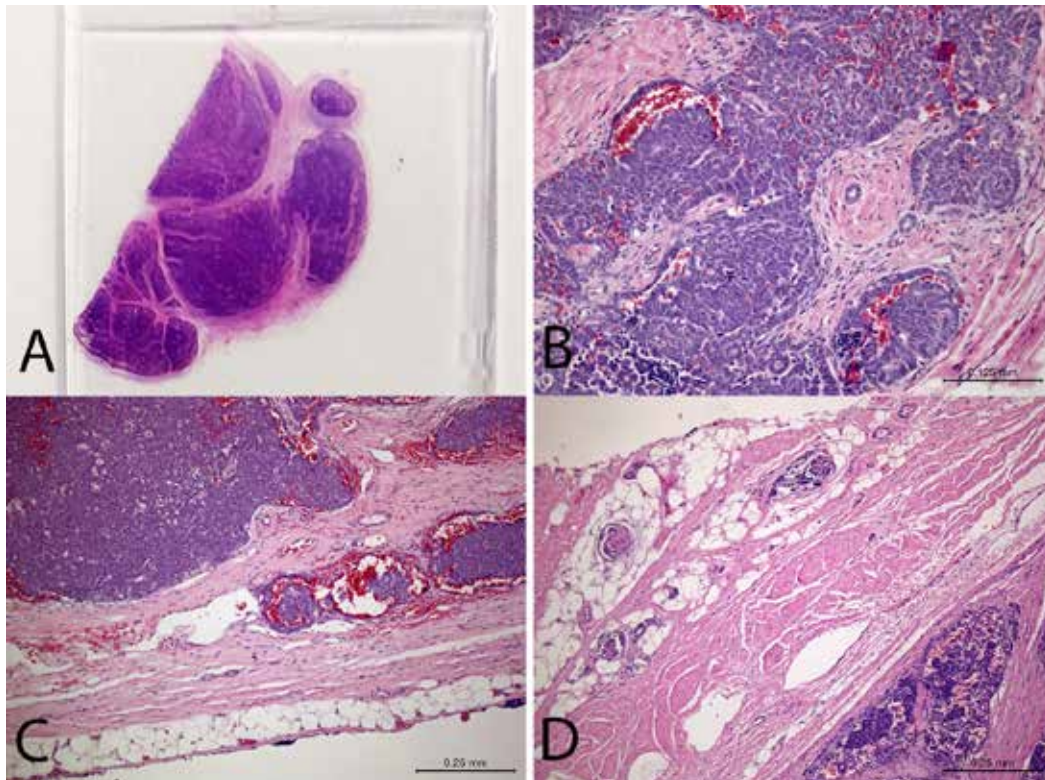


Figure 2. Histopathology of the tumor. **A.** Circumscript, non-encapsulated, multinodular pattern of tumor growth in a tissue section photographed on the microscopic glass slide. The width of the coverslip is 24 mm. **B.** Typical histological structure of Wilms tumor with a predominant, dense, small-cell blastema component; focal, tubular, epithelial differentiation; and a highly hyalinized, stromal component. (HE, x200) **C.** Vascular tumor invasion in dilated venules on the periphery of the tumor node. (HE, x100) **D.** In the upper left part of the image, in the mature, fatty tissue near the resection surface and outside the tumour nodule, three tiny islands whose glomeruloid histological structure corresponds to ectopic nephrogenic remnants can be observed. It is assumed that these could be precursors of extrarenal Wilms tumor. (HE, x100)

The patient was treated according to the SIOP 2001 Protocol for high-risk group of Wilms tumor. On final assessment, the patient was disease-free. During the 10 year follow-up no recurrence of the tumor was noted.

DISCUSSION

A literature search revealed 18 inguinal-located ERWT cases reported so far (19–34). Inguinal ERWT may mimic other more common benign diseases and malignant tumors located in this region. Our patient was misdiagnosed as having funicular hydrocele. Similarly, in three other reported cases patients were operated on for presumed inguinal hernia (29,34,35), and six tumors were found incidentally during routine orchidopexy (21,22,25,26,28,32).

In all analyzed cases, the diagnosis was obtained after surgical removal of the tumor. Like in our case, clinical resemblance to other pediatric inguinal conditions may lead to the omission of preoperative work-up. Among all reported cases, preoperative radiological assessment was done only in two: a CT scan was performed in a girl with inguinal swelling after herniectomy (24) and both a CT scan and F-18 FDG PET/CT were done in a 9-year-old boy with rapidly enlarging mass in the inguinal region (23). Even with a complete work-up, the rarity of this tumor and a lack of pathognomonic radiological features makes preoperative diagnosis virtually impossible (1,18).

Similarly to ERWT, ENR can be found in the inguinal region. There are 6 cases of the inguinal ENRs published so far. They are mostly encountered incidentally during hernia repair or orchidopexy (15). Most children with inguinal ENR had an uneventful postoperative follow-up with no recurrence (15,36). However, the patient presented by Cook et al. had local recurrence five months after ENR removal. In the specimen removed during the second operation, transformation into Wilms tumor was noted (22). Histological differentiation between ERWT and ENR can be difficult, especially if ENR is in the proliferative phase. Correct pathological diagnosis of ENR may help to avoid unnecessary adjuvant treatment. Nevertheless, close follow-up with clinical and ultrasound examinations of the inguinal region at least bi-annually is necessary (15,36).

The precise treatment protocols for ERWT remain elusive. Complete excision of the tumor is the primary goal of surgical treatment. The case presented by Luchtrach et al. demonstrated that nephrogenic rests and detached microscopic ERWT might be found in the seemingly unaffected soft tissue surrounding the tumor (29). In our case, based on a postoperative CT scan, it is possible that similar tumor rest, not visible during the operation, was present. Since the lesion regressed completely following chemotherapy, definitive histopathological confirmation of this claim is missing.

According to literature data, local recurrence of inguinal-located ERWT was present in three reported patients (19,35). They were all primarily treated with surgical excision alone. Time to recurrence ranged from 5 to 11 months. One of the patients, reported by Thomson et al. was treated with radiation therapy and made a full recovery. The other patient developed lung metastasis despite additional chemo- and radiotherapy and he died. The patient reported by Lail et al. was treated with re-excision and chemotherapy. The author reports complete remission, however, in a review by Coppes et al., it is stated that this patient developed brain metastases 24 months after surgery and was lost from follow-up afterwards (34).

All in all, there are four reports of children with distant metastases after inguinal ERWT - three had metastases in the lungs (19,23,30) and one in the brain (34). Tumor spread only to the local lymph node was reported by Groth et al. (26). We emphasize that metastases were either present initially, or they developed in children who had not been treated with adjuvant chemotherapy.

Fortunately, there are only two reported deaths after inguinal ERWT (19,30). Both reports with unfavorable outcome date from 40-50 years ago. On the contrary, in the case reported more recently by Jeong et al., lung metastases in a patient with ERWT were successfully treated with chemotherapy (23).

The aforementioned patient reported by Cooke et al. is the only child that was completely cured only with surgical removal of the tumor. In this case, a 0.5 cm focus of ERWT was found surrounded by ENR (22). Based on all presented data, adjuvant chemotherapy is advised in most patients with inguinal ERWT. It could be omitted only in exceptional cases with complete removal of ERWT with a portion of unaffected tissue around it.

ERWT prognosis is similar to the corresponding stage of renal Wilms tumor (16). It is proved that older age, larger tumor size, higher stage, unfavorable histology, and tumor spillage are associated with worse outcomes in ERWT (1,17). The inguinal location makes tumors detectable in the early stages of development, while still small in size. Additionally, ERWTs have predominantly favorable histology (1). Thus, the prognosis of most children with inguinal ERWT is excellent.

CONCLUSION

ERWT is a rare tumor, mostly diagnosed after surgical removal of the specimen. Clinical resemblance to common benign inguinal conditions in children may lead to the omission of more detailed preoperative work-up. The inguinal location makes tumors detectable while relatively small in size and most often without metastases. Most children with ERWT in the inguinal region have an excellent prognosis, although the majority of them require adjuvant chemotherapy and/or radiotherapy. Inguinal

ENR should be considered premalignant lesions and close follow-up after surgical removal is needed.

Author contributions

T.M. – the concept of the work, the acquisition, analysis and interpretation of data, preparing the draft of the manuscript
 P.R. - the concept of the work, the acquisition, analysis and interpretation of data, preparing the draft of the manuscript
 M.M. - the concept of the work, the acquisition, analysis and interpretation of data, interpretation of revised version of the manuscript

S.Đ. - the acquisition, analysis and interpretation of data, preparing the draft of the manuscript, interpretation of revised version of the manuscript

Đ.S. - the acquisition, analysis and interpretation of data, interpretation of revised version of the manuscript

D.Đ. - the acquisition, analysis and interpretation of data, interpretation of revised version of the manuscript

M.S. - the concept of the work, interpretation of revised version of the manuscript

REFERENCES

- Shojaeian R, Hiraifar M, Sharifabad PS, Zabolinejad N. Extrarenal Wilms' Tumor: Challenges in Diagnosis, Embryology, Treatment and Prognosis. In: van den Heuvel-Eibrink MM. Wilms Tumor [Internet]. Codon Publications, Brisbane (AU) 2016. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK373353> doi: 10.15586/codon.wt.2016.ch6.
- Moyson F, Maurus-Desmarez R, Gompel C. [Mediastinal Wilms' tumor?]. *Acta Chir Belg* 1961; Suppl 2: 118–28.
- Karim A, Shaikhyzada K, Abulkhanova N, Altyn A, Ibraimov B, Nurgaliyev D, et al. Pediatric Extra-Renal Nephroblastoma (Wilms' Tumor): A Systematic Case-Based Review. *Cancers (Basel)* 2023; 15: 2563. doi: 10.3390/cancers15092563.
- Alexander VM, Meisel J, O'Brien S, Khanna N. Wilms' tumor of the ovary. *Gynecol Oncol Rep* 2016; 19: 18–21. doi: 10.1016/j.gore.2016.12.004.
- Unny AK, Subramanian B, Srinivasan A, Rabia S. Extrarenal Teratoid Wilms Tumor. *J Indian Assoc Pediatr Surg* 2022; 27: 623–6. doi: 10.4103/jiaps.jiaps_190_21.
- Rosen J, Munoz C, Tong C. A Blunt Scrotal Trauma With More Than Meets the Eye. *Urology* 2023; 172: 186–8. doi: 10.1016/j.urolgy.2022.10.021.
- Willis KR, Sathe AA, Xing C, Koduru P, Artunduaga M, Butler EB, et al. Extrarenal Anaplastic Wilms Tumor: A Case Report With Genomic Analysis and Tumor Models. *J Pediatr Hematol Oncol* 2022; 44: 147–54. doi: 10.1097/MPH.0000000000002413.
- Kousik V, Vaswani BA, Milap M, Ram S. (18)Fluorine-fluorodeoxyglucose PET-CT findings in a case of rarely seen metastatic adult extrarenal Wilms' tumor of retroperitoneum presenting as lower limb edema. *World J Nucl Med* 2021; 20:386–8. doi: 10.4103/wjnm.wjnm_53_21.
- Filizoglu N, Oksuzoglu K, Bozkurt S, Ozguven S, Erdil TY. FDG PET/CT Findings of Extrarenal Wilms Tumor Originating From the Spinal Cord. *Clin Nucl Med* 2021; 46: 86–7. doi: 10.1097/RLU.00000000000003297.
- Turashvili G, Fix DJ, Soslow RA, Park KJ. Wilms Tumor of the Ovary: Review of the Literature and Report of 2 Cases. *Int J Gynecol Pathol* 2020; 39: 72–8. doi: 10.1097/PGP.0000000000000565.
- Pinto A, Huang M, Castillo RP, Schlumbrecht MP. Wilms Tumor of the Uterus. *Int J Gynecol Pathol* 2019; 38: 335–9. doi: 10.1097/PGP.0000000000000500.
- Cao M-M, Huang C-P, Wang Y-F, Ma D-M. Extrarenal Wilms' Tumor of the Female Genital System: A Case Report and Literature Review. *Chinese Med Sci J* 2017; 32: 274–8. doi: 10.24920/J1001-9294.2017.040.
- Orlowski JP, Levin HS, Dyment PG. Intrascrotal Wilms' tumor developing in a heterotopic renal anlage of probable mesonephric origin. *J Pediatr Surg* 1980; 15:679–82. doi: 10.1016/s0022-3468(80)80527-6.
- Rojas Y, Slater BJ, Braverman RM, Eldin KW, Thompson PA, Wesson DE, et al. Extrarenal Wilms tumor: A case report and review of the literature. *J Pediatr Surg* 2013; 48:e33–5. doi: 10.1016/j.jpedsurg.2013.04.021.
- Antoniou D, Loukas I, Papadakis V. Ectopic nephrogenic rest in the inguinal canal in a 6-month-old girl and a review of published studies. *Ann Saudi Med* 2012; 32: 649–51. doi: 10.5144/0256-4947.2012.23.5.1126.
- Andrews PE, Kelalis PP, Haase GM. Extrarenal Wilms' tumor: Results of the National Wilms' Tumor Study. *J Pediatr Surg* 1992; 27: 1181–4. doi: 10.1016/0022-3468(92)90782-3.
- Beckwith JB, Palmer NF. Histopathology and prognosis of Wilms tumors: Results from the First National Wilms' Tumor Study. *Cancer* 1978; 41: 1937–48. doi: 10.1002/1097-0142(197805)41:5<1937::aid-cn-cr2820410538>3.0.co;2-u.
- Apoznański W, Sawicz-Birkowska K, Palczewski M, Szydelko T. Extrarenal nephroblastoma. *Cent Eur J Urol* 2015; 68: 153–6. doi: 10.5173/cej.2015.571.
- Thompson MR, Emmanuel IG, Campbell MS, Zachary RB. Extrarenal Wilms' tumors. *J Pediatr Surg* 1973; 8: 37–41. doi: 10.1016/0022-3468(73)90292-3.
- Madanat F, Osborne B, Cangir A, Sutow WW. Extrarenal Wilms tumor. *J Pediatr* 1978; 93: 439–43. doi: 10.1016/s0022-3476(78)81153-6.
- Arkovitz MS, Ginsburg HB, Eidelman J, Greco MA, Rauson A. Primary extrarenal Wilms' tumor in the inguinal canal: case report and review of the literature. *J Pediatr Surg* 1996; 31: 957–9. doi: 10.1016/s0022-3468(96)90421-2.
- Cooke A, Deshpande AV, La Hei ER, Kellie S, Arbuckle S, Cummins G. Ectopic nephrogenic rests in children: the clinicosurgical implications. *J Pediatr Surg* 2009; 44: e13–6. doi: 10.1016/j.jpedsurg.2009.09.015.
- Jeong YJ, Sohn MH, Lim ST, Kim DW, Jeong HJ, Yim CY. F-18 FDG PET/CT imaging of metastatic extrarenal Wilms tumor arising in the inguinal canal. *Clin Nucl Med* 2011; 36: 475–8. doi: 10.1097/RLU.0b013e31820ade92.
- Hiraifar M, Shojaeian R, Zabolinejad N, Saeedi P, Joodi M, Khazaie Z, et al. Extrarenal Wilms' tumour presenting as an inguinal mass. *Arch Dis Child* 2012; 97: 1077. doi: 10.1136/archdischild-2012-302605.
- Liang H, He Y, Fu L, Tian J, Sun N, Yu T, et al. Extrarenal Wilms tumor in children: A retrospective observational case series. *J Pediatr Urol* 2020; 16: 664.e1–664.e7. doi: 10.1016/j.jpuro.2020.07.016.
- Groth TW, Southern J, Goetz JT, Farooq A. A Case of Primary Paratesticular Wilms Tumor in an Undescended Testis. *Urology* 2019; 129: 197–9. doi: 10.1016/j.urolgy.2018.12.024.
- Harms D, Lohr J. Inguinaler Wilms tumor. *Klin Padiat* 1978; 190: 54–6.
- Ho J, Ma L, Wong KC. An extrarenal Wilms' tumour arising from an undescended testis. *Pathology* 1981; 13: 619–24. doi: 10.3109/00313028109059082.
- Lüchtrath H, de Leon F, Giesen H, Gök Y. Inguinal nephroblastoma. *Virchows Arch A Pathol Anat Histopathol* 1984; 405: 113–8. doi:

- 10.1007/BF00694929.
30. Todd DW, Roskos R, Baldwin J. Extrarenal Wilms' tumor. *Minn Med* 1984; 67: 635–8.
 31. Okamura R, Tanaka T, Hagamaki H. A case of Wilms' tumor in the right inguinal region. *Jap J Clin Surg* 1984; 39: 419.
 32. Strand WR, Chou P, Pero JE, Kaplan WE. Extrarenal Wilms tumor occurring in the inguinal canal. *J Urol* 1990; 143: 783–5. doi: 10.1016/s0022-5347(17)40093-0.
 33. Simha MR, Doctor VM. Extrarenal Wilm's tumour. A case report and review of literature. *Indian J Cancer* 1991; 28: 16–21.
 34. Coppes MJ, Wilson PC, Weitzman S. Extrarenal Wilms' tumor: staging, treatment, and prognosis. *J Clin Oncol* 1991; 9: 167–74. doi: 10.1200/JCO.1991.9.1.167.
 35. Lai HS, Hung WT, How SW. Extrarenal Wilms' tumor--a case report. *J Pediatr Surg* 1988; 23: 454–6. doi: 10.1016/s0022-3468(88)80447-0.
 36. Ma Y, Zheng J, Feng J, Zhu H, Xiao X, Chen L. Ectopic nephrogenic rests in children: A series of 13 cases in a single institution. *Pediatr Blood Cancer* 2018; 65: 1–6. doi: 10.1002/pbc.26985.

EKSTRARENALNI VILMSOV TUMOR KOJI JE IMPONOVAO KAO FUNIKULOCELA

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Sažetak

Uvod: Ekstrarenalni Vilmsov tumor (ERVT) predstavlja redak entitet koji čini 0,5% - 1% svih nefroblastoma. Ovaj tumor je najčešće lokalizovan u retroperitoneumu, ingvinalnoj, paratestikularnoj ili lumbosakralnoj regiji, ženskim genitalnim organima, kao i u medijastinumu ili zidu grudnog koša. Najveći broj autora smatra da ERVT nastaje malignom transformacijom ektopičnih primitivnih nefrogenih ostataka. U cilju postavljanja dijagnoze ERVT, neophodno je, pre svega, isključiti postojanje primarnog maligniteta bubrega.

Opis pacijenta: Dečak uzrasta 15 meseci operisan je zbog promene lokalizovane u levoj ingvinalnoj regiji koja je na osnovu kliničkog pregleda odgovarala funikuloceli. Intraoperativno funikulocela ili preponska kila nisu nađene, a u predelu spoljašnjeg ingvinalnog prstena identifikovan je solidan tumorski čvor promera oko 2 cm i hirurški uklonjen u celini. Histopatološkim pregledom je ustanovljeno da tumor u potpunosti odgovara nea-

naplastičnom nefroblastomu (Vilmsovom tumoru), mešovito tipa. Nakon CT pregleda abdomena isključeno je postojanje primarnog tumora bubrega i postavljena je dijagnoza ERVT. Zbog mikroskopskog ostatka tumorskih ćelija na resekcionoj margini, ordinirana je hemioterapija po protokolu za Vilmsov tumor visokog rizika. Po završetku lečenja, došlo je do potpune remisije koja se održala tokom desetogodišnjeg praćenja.

Zaključak: Dijagnoza ERVT se najčešće postavlja nakon hirurškog uklanjanja tumora. Zbog kliničke sličnosti ERVT lokalizovanih u ingvinumu sa mnogo češćim benignim patološkim promenama u ovoj regiji kod dece, detaljnije preoperativno ispitivanje najčešće izostaje. Najveći broj dece lečene zbog ERVT u ingvinalnoj regiji ima dobru prognozu, mada je kod većine pacijenata pored hirurške neophodna i adjuvantna hemio i/ili radioterapija.

Cljučne reči: ekstrarenalni Vilmsov tumor, ingvinalna regija, funikulocela

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