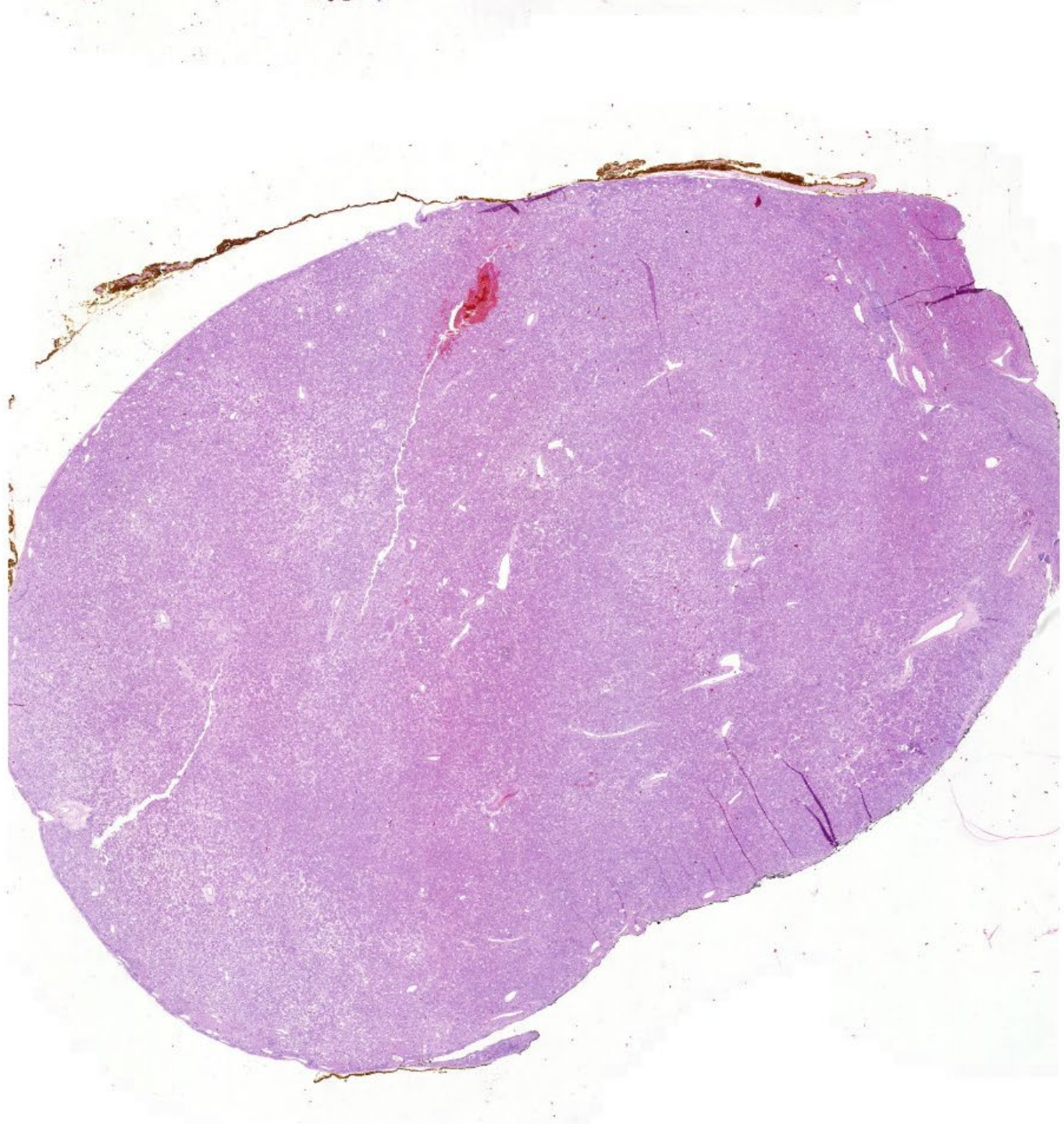
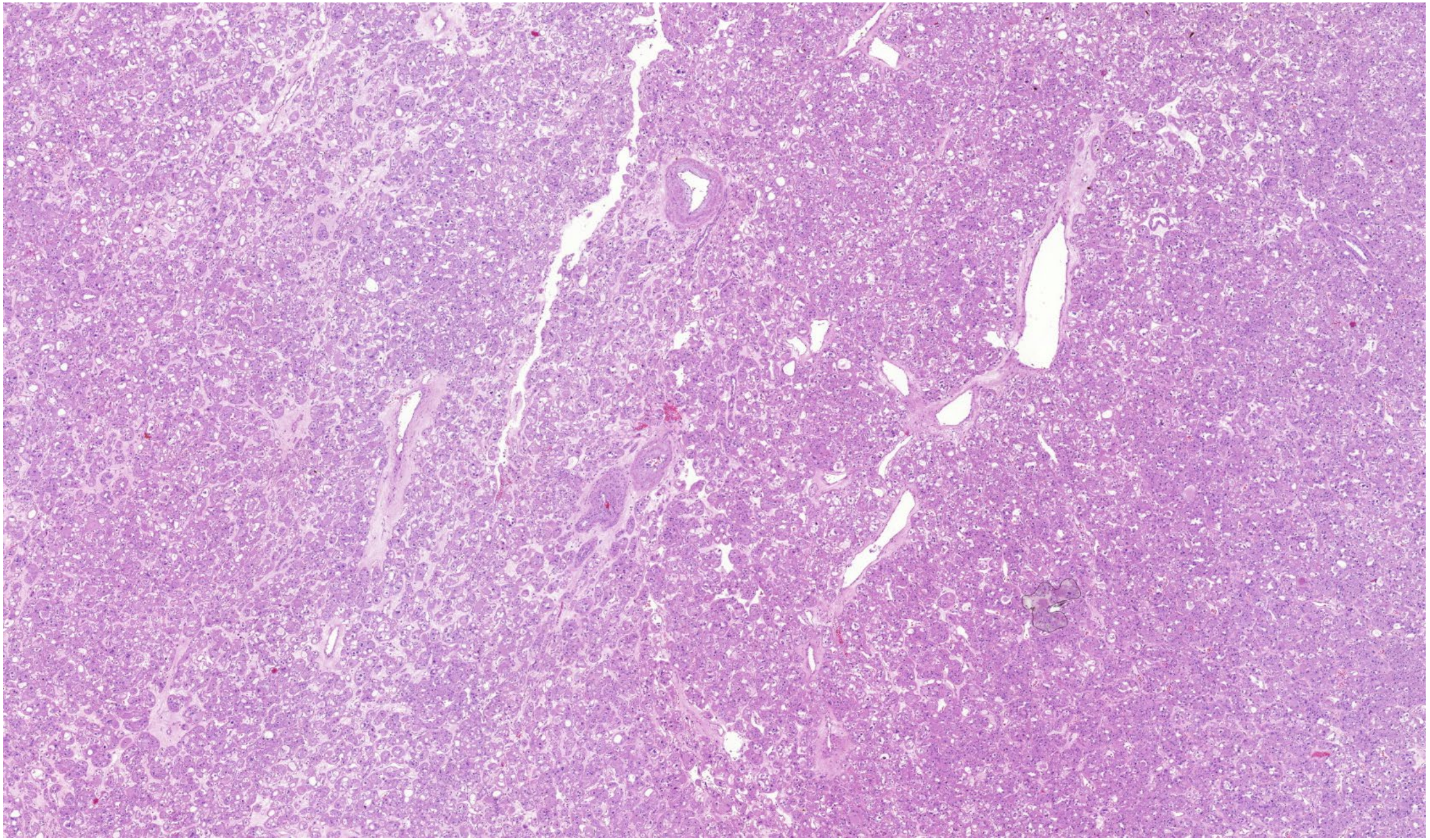
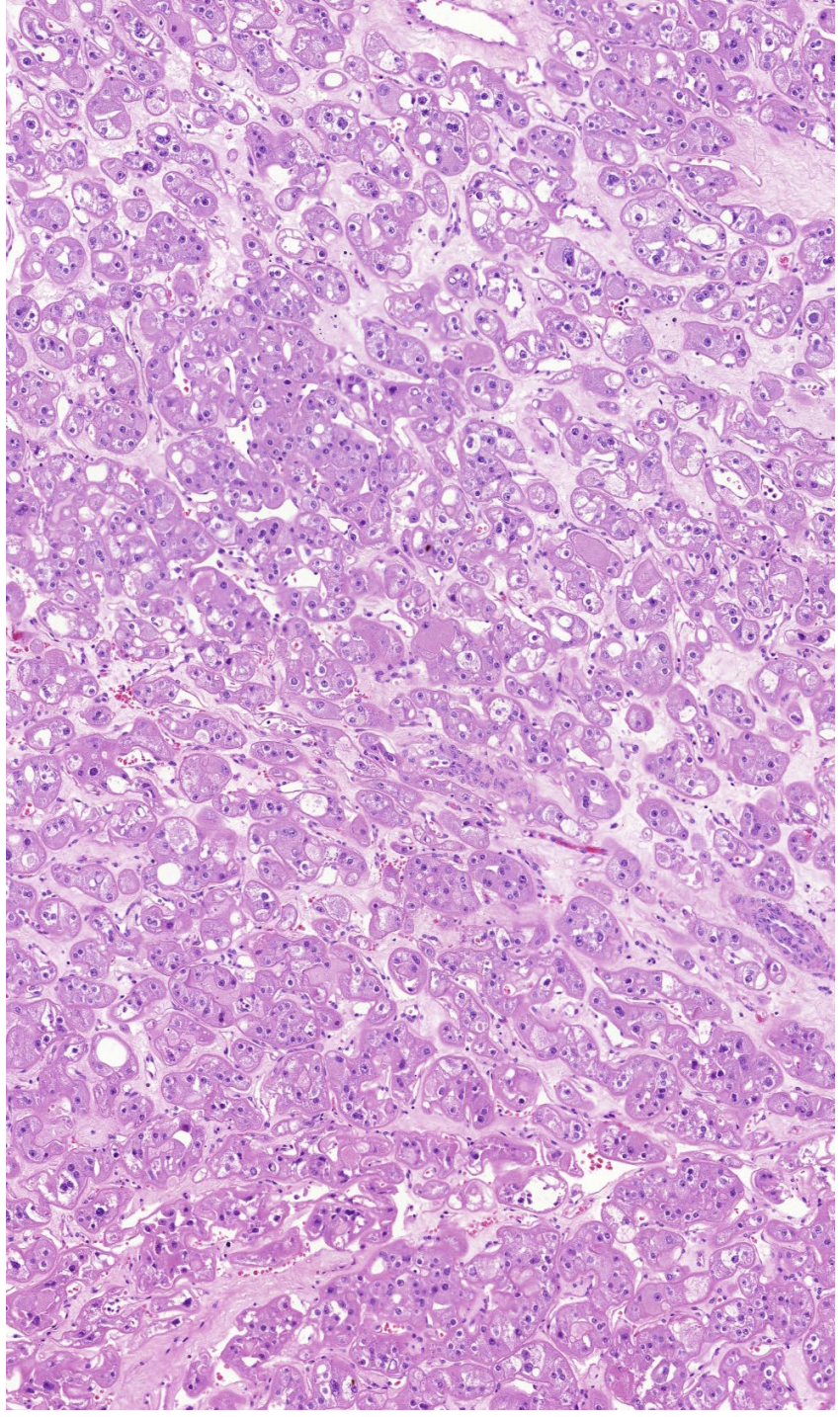
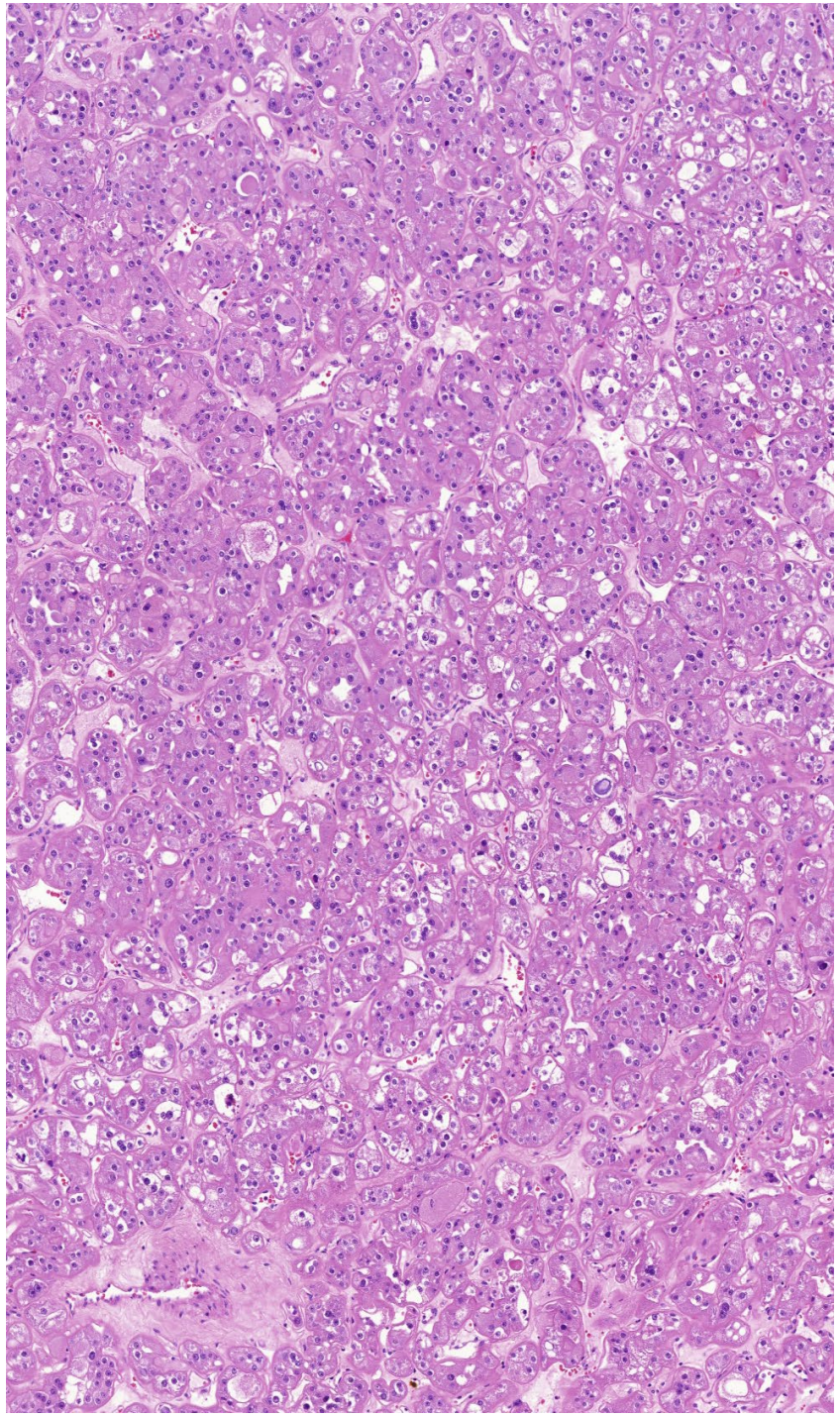
Žena, 37 let
Tumor ledviny 3 cm. Žádná známá nádorová anamnéza, náhodný nález.

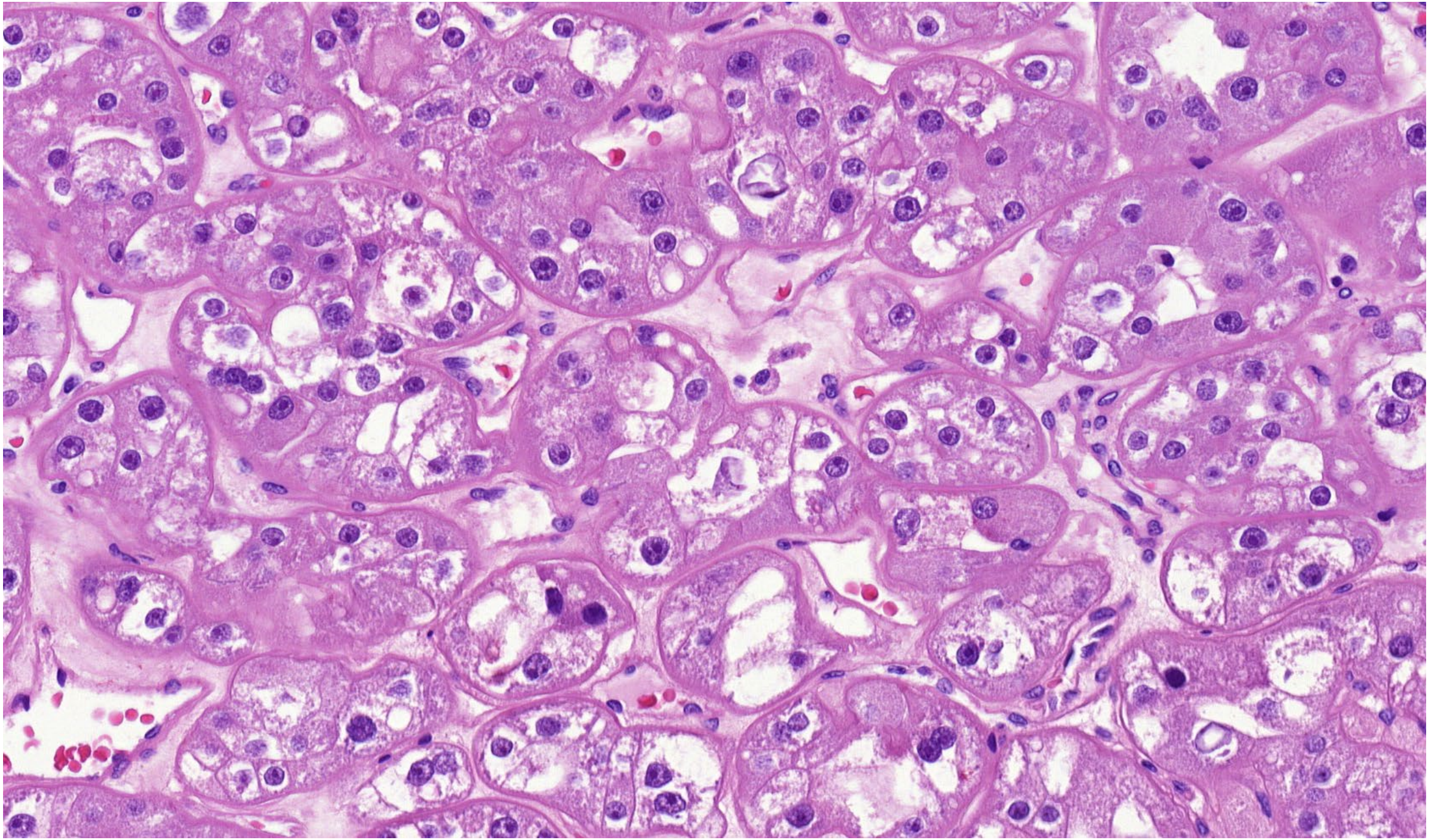
Ondřej Hes

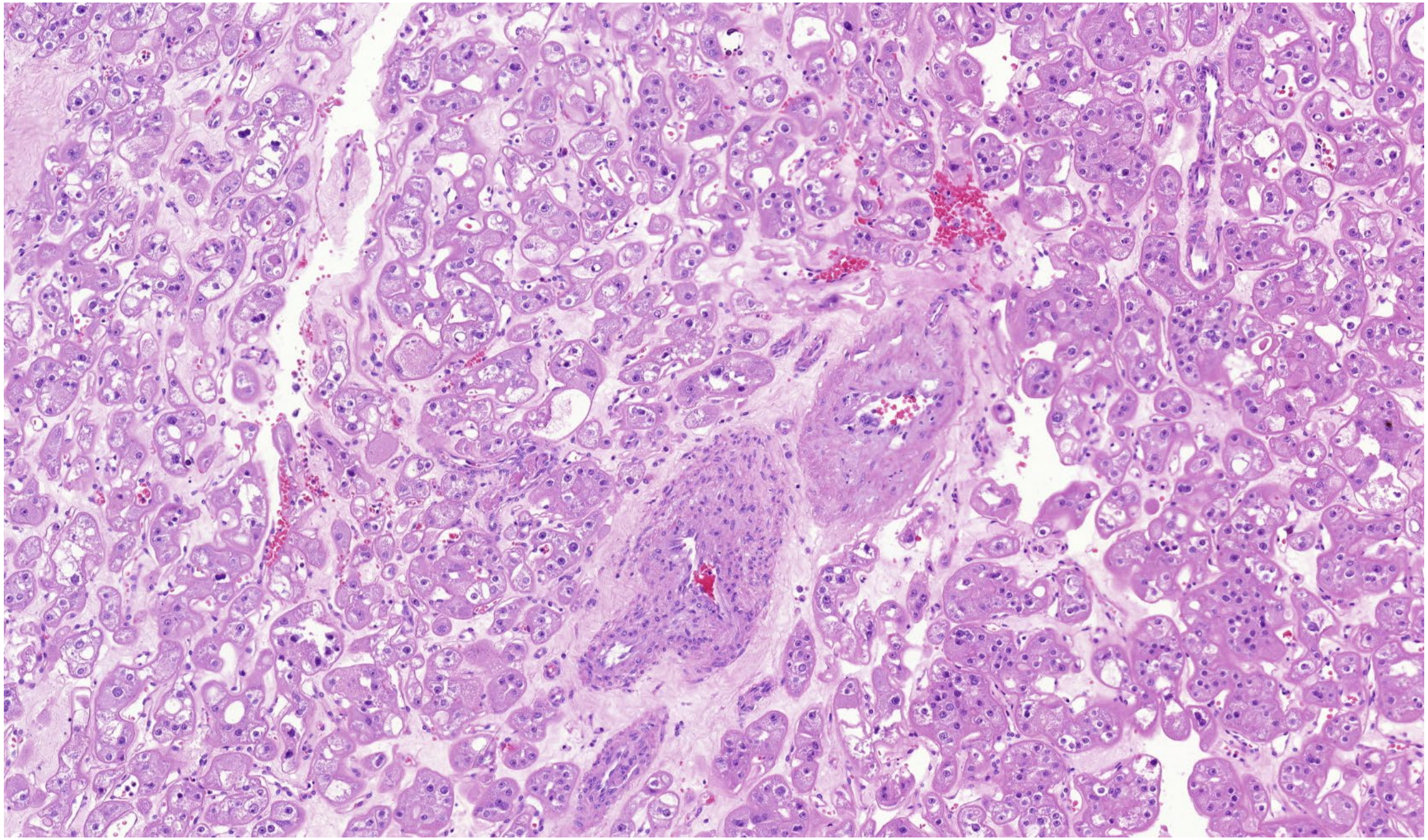


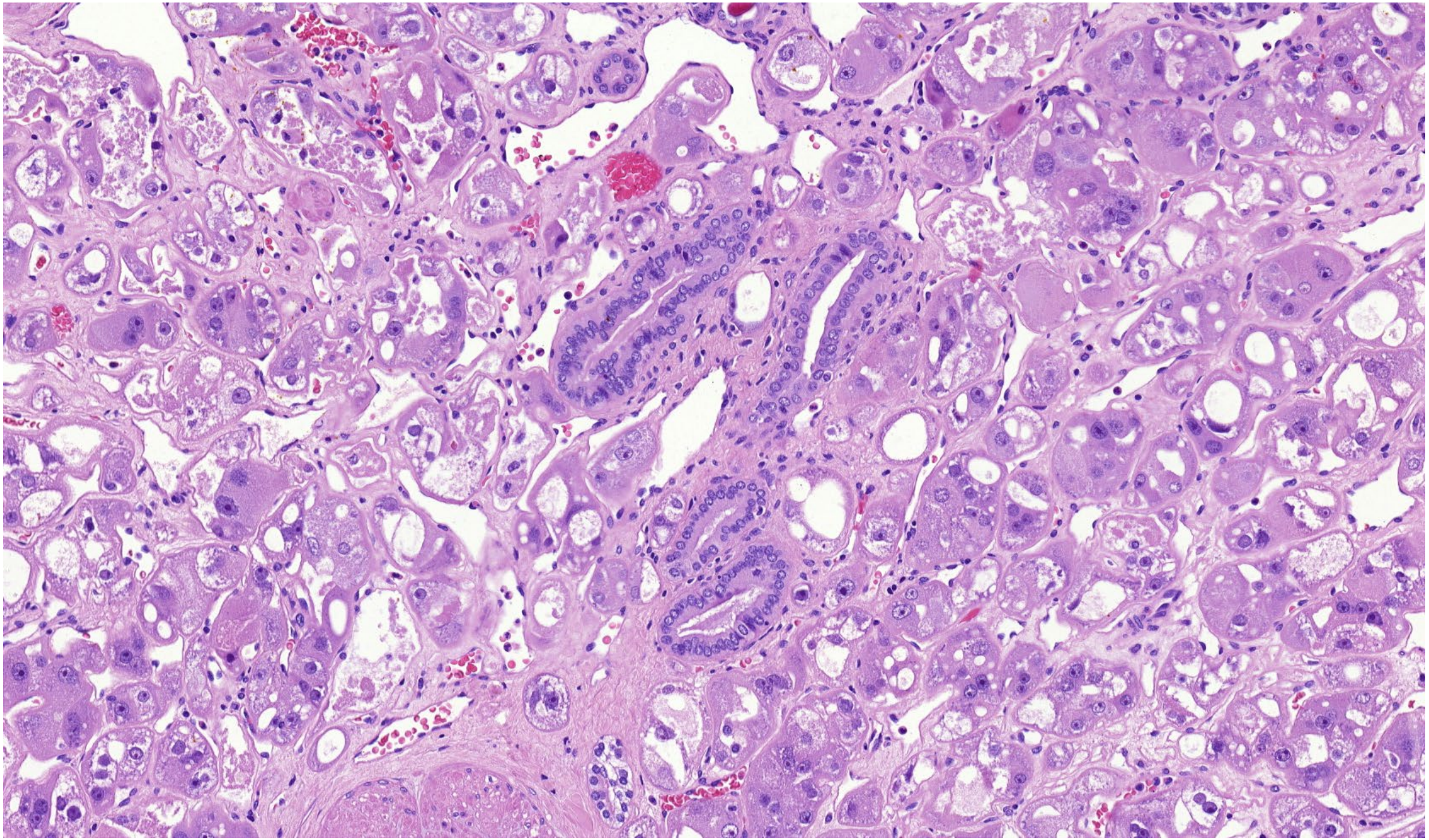




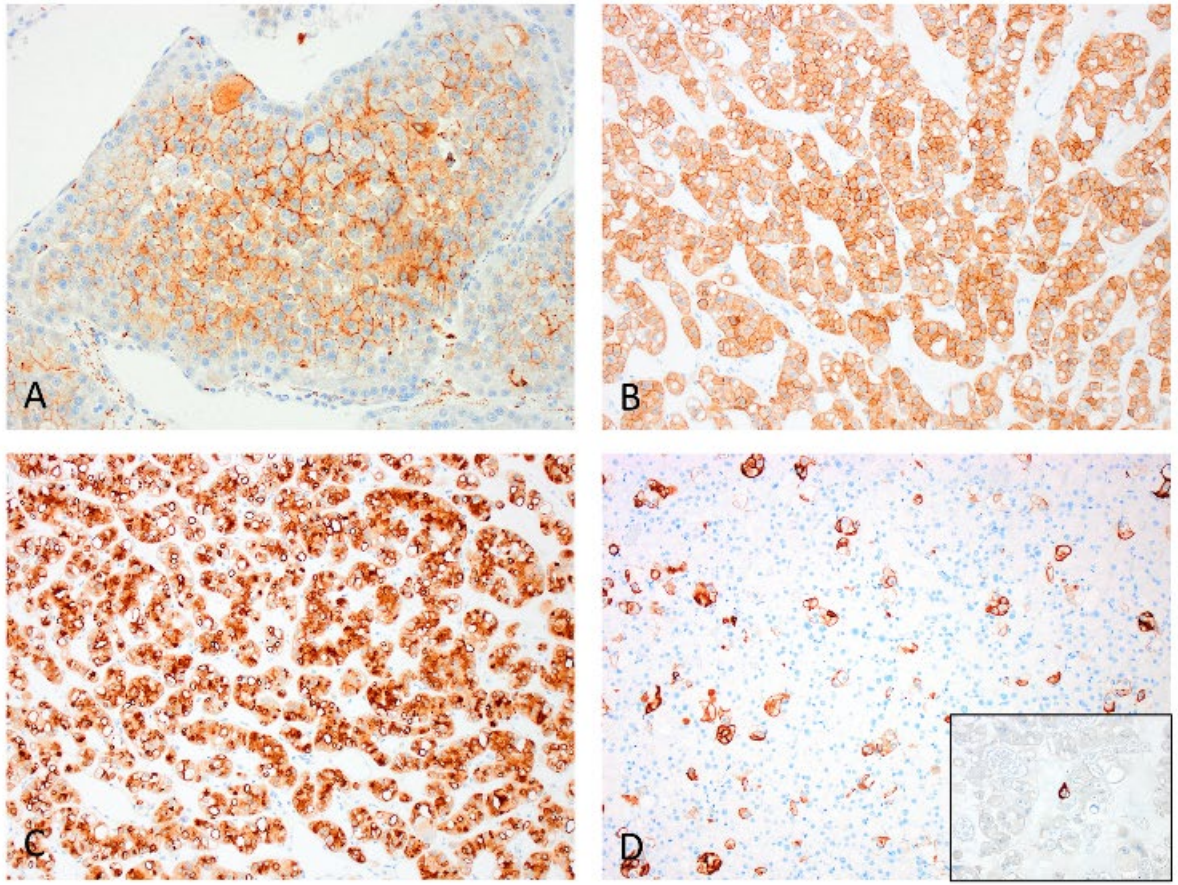








Immunohistochemický profil



- A: Cathepsin K
- B: CD117
- C: CD10
- D: CK 7

Virchows Archiv
https://doi.org/10.1007/s00428-018-2456-4

ORIGINAL ARTICLE

"High-grade oncocytic renal tumor": morphologic, immunohistochemical, and molecular genetic study of 14 cases

Huiying He[1] · Kiril Trpkov[2] · Petr Martinek[3] · Ozlem Tanas Isikci[4] · Cristina Maggi-Galuzzi[5] · Reza Alaghehbandan[6] · Anthony J Gill[7,8,9] · Maria Tretiakova[10] · Jose Ignacio Lopez[11] · Sean R. Williamson[12] · Delia Perez Montiel[13] · Maris Sperga[14] · Eva Comperat[15] · Fadi Brimo[16] · Ali Yilmaz[2] · Kristyna Pivovarcikova[3] · Kveta Michalova[3] · David Slouka[17] · Kristyna Prochazkova[18] · Milan Hora[18] · Michael Bonert[19] · Michal Michal[3] · Ondrej Hes[3]

Received: 11 May 2018 / Revised: 29 August 2018 / Accepted: 10 September 2018

Abstract

The spectrum of the renal oncocytic tumors has been expanded in recent years to include several novel and emerging entities. We describe a cohort of novel, hitherto unrecognized and morphologically distinct high-grade oncocytic tumors (HOT), currently diagnosed as "unclassified" in the WHO classification. We identified 14 HOT by searching multiple institutional archives. Morphologic, immunohistochemical (IHC), molecular genetic, and molecular karyotyping studies were performed to investigate these tumors. The patients included 3 men and 11 women, with age range from 25 to 73 years (median 50, mean 49 years). Tumor size ranged from 1.5 to 7.0 cm in the greatest dimension (median 3, mean 3.4 cm). The tumors were all pT1 stage. Microscopically, they showed nested to solid growth, and focal tubulocystic architecture. The neoplastic cells were uniform with voluminous oncocytic cytoplasm. Prominent intracytoplasmic vacuoles were frequently seen, but no irregular (raisinoid) nuclei or perinuclear halos were present. All tumors demonstrated prominent nucleoli (WHO/ISUP grade 3 equivalent). Nine of 14 cases were positive for CD117 and cytokeratin (CK) 7 was either negative or only focally positive in of 6/14 cases. All tumors were positive for AE1-AE3, CK18, PAX 8, antimitochondrial antigen, and SDHB. Cathepsin K was positive in 13/14 cases and CD10 was positive in 12/13 cases. All cases were negative for TFE3, HMB45, Melan-A. No *TFEB* and *TFE3* genes rearrangement was found in analyzable cases. By array CGH, complete chromosomal losses or gains were not found in any of the cases, and 3/9 cases showed absence of any abnormalities. Chromosomal losses were detected on chromosome 19 (4/9), 3 with losses of

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ORIGINAL ARTICLE

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Received: 11 May 2018 / Revised: 29 August 2018 / Accepted: 10 September 2018

ORIGINAL ARTICLE

Somatic Mutations of *TSC2* or *MTOR* Characterize a Morphologically Distinct Subset of Sporadic Renal Cell Carcinoma With Eosinophilic and Vacuolated Cytoplasm

Ying-Bei Chen, MD, PhD, Leili Mirsadraei, MD, Gowtham Jayakumaran, MS, Hikmat A. Al-Ahmadie, MD, Samson W. Fine, MD, Anuradha Gopalan, MD, S. Joseph Sirintrapun, MD, Satish K. Tickoo, MD, and Victor E. Reuter, MD

Abstract: The differential diagnosis of renal cell neoplasms with solid or nested architecture and eosinophilic cytoplasm has become increasingly complex. Despite recent advances in classifying a number of entities exhibiting this morphology, some tumors remain in the unclassified category. Here we describe a morphologically distinct group of sporadic renal cell carcinoma tumors tested) or activating mutations of *MTOR* (2/5) as the primary molecular alterations, consistent with hyperactive mTOR complex 1 signaling which was further demonstrated by phospho-S6 and phospho-4E-BP1 immunostaining. Copy number analysis revealed a loss of chromosome 1 in both cases with *MTOR* mutation. These tumors represent a novel subset of sporadic RCC characterized by alterations in TSC1-TSC2

Modern Pathology
https://doi.org/10.1038/s41379-021-00737-6

USCAP

ARTICLE

Novel, emerging and provisional renal entities: The Genitourinary Pathology Society (GUPS) update on renal neoplasia

Kiril Trpkov[1] · Sean R. Williamson[2] · Anthony J. Gill[3] · Adebowale J. Adeniran[4] · Abbas Agaimy[5] · Reza Alaghehbandan[6] · Mahul B. Amin[7] · Pedram Argani[8] · Ying-Bei Chen[9] · Liang Cheng[10] · Jonathan I. Epstein[11] · John C. Cheville[12] · Eva Comperat[13] · Isabela Werneck da Cunha[14] · Jennifer B. Gordetsky[15] · Sounak Gupta[12] · Huiying He[16] · Michelle S. Hirsch[17] · Peter A. Humphrey[4] · Payal Kapur[18] · Fumiyoshi Kojima[19] · Jose I. Lopez[20] · Fiona Maclean[21,22] · Cristina Magi-Galluzzi[23] · Jesse K. McKenney[2] · Rohit Mehra[24] · Santosh Menon[25] · George J. Netto[23] · Christopher G. Przybycin[2] · Priya Rao[26] · Qiu Rao[27] · Victor E. Reuter[9] · Rola M. Saleeb[28] · Rajal B. Shah[29] · Steven C. Smith[30] · Satish Tickoo[9] · Maria S. Tretiakova[31] · Lawrence True[31] · Virginie Verkarre[32] · Sara E. Wobker[33] · Ming Zhou[34] · Ondrej Hes[35]

Received: 19 October 2020 / Revised: 15 December 2020 / Accepted: 15 December 2020

Abstract

The Genitourinary Pathology Society (GUPS) undertook a critical review of the recent advances in renal neoplasia, particularly focusing on the newly accumulated evidence post-2016 World Health Organization (WHO) classification. In the era of evolving histo-molecular classification of renal neoplasia, morphology is still key. However, entities (or groups of entities) are increasingly characterized by specific molecular features, often associated either with recognizable, specific morphologies or constellations of morphologies and corresponding immunohistochemical profiles. The correct diagnosis has clinical implications leading to better prognosis, potential clinical management with targeted therapies, may identify hereditary or syndromic associations, which may necessitate appropriate genetic testing. We hope that this undertaking will further facilitate the identification of these entities in practice. We also hope that this update will bring more clarity regarding the evolving classification of renal neoplasia and will further reduce the category of "unclassifiable renal carcinomas/tumors". We propose three categories of novel entities: (1) "Novel entity", validated by multiple independent studies; (2) "Emerging entity", good compelling data available from at least two or more independent studies, but additional validation is needed; and (3) "Provisional entity", limited data available from one or two studies, with more work required to validate them. For some entities initially described using different names, we propose new terminologies, to facilitate their recognition and to avoid further diagnostic dilemmas. Following these criteria, we propose as novel entities: eosinophilic solid and cystic renal cell carcinoma (ESC RCC), renal cell carcinoma with fibromyomatous stroma (RCC FMS) (formerly RCC with leiomyomatous or smooth muscle stroma), and anaplastic lymphoma kinase rearrangement-associated renal cell carcinoma (ALK-RCC). Emerging entities include: eosinophilic vacuolated tumor (EVT) and thyroid-like follicular renal cell carcinoma (TLFRCC). Finally, as provisional entities, we propose low-grade oncocytic tumor (LOT), atrophic kidney-like lesion (AKLL), and biphasic hyalinizing psammomatous renal cell carcinoma (BHP RCC).

Modern Pathology
https://doi.org/10.1038/s41379-021-00737-6

USCAP

ARTICLE

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Eosinophilic Vacuolated Tumor (EVT)

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Eosinophilic Vacuolated Tumor (EVT) of Kidney Demonstrates Sporadic *TSC/MTOR* Mutations:

Next Generation Sequencing Multi-institutional Study of 19 Cases

Farcaş Mihaela[1,2], Gatalica Zoran[3], Trpkov Kiril[4], Swensen Jeffrey[5], Zhou Ming[6], Alaghehbandan Reza[7], Williamson Sean R[8], Magi-Galluzzi Cristina[9], Gill Anthony J[10,11], Tretiakova Maria[12], Lopez Jose I[13], Perez Montiel Delia[14], Sperga Maris[15], Comperat Eva [16, 17], Brimo Fadi[18], Yilmaz Asli[4], Siadat Farshid[4], Sangoi Ankur[19], Gao Yuan[20], Ptákova Nikola[21], Kuthi Levente[22], Pivovarcikova Kristyna[23], Rogala Joanna[23], Agaimy Abbas[24], Hartmann Arndt[24], Fraune Cristoph[25], Rychly Boris[26], Hurnik Pavel[27], Durcansky Dušan[28], Bonnert Michael[29], Gakis Georgios[30], Michal Michal[23], Hora Milan[31], and Hes Ondrej[23]

[1]Department of Pathology, Colentina Clinical Hospital, Bucharest, Romania

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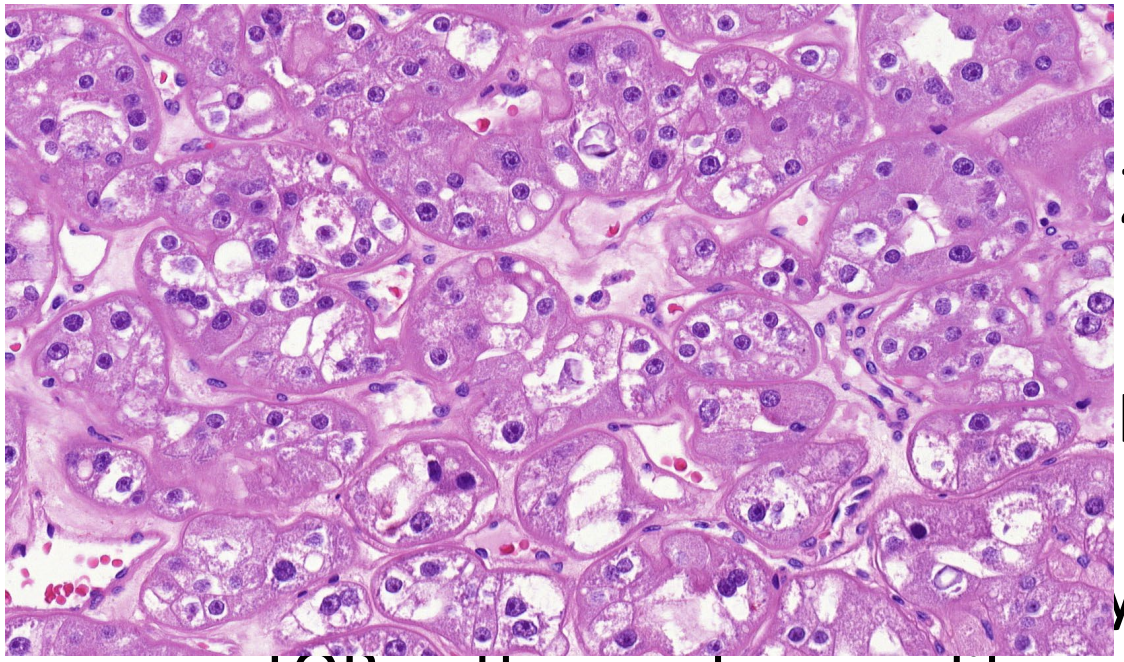
Differenciální diagnóza

- **RO**- postrádá vakuoly, jiný IHC profil, postrádá mTOR pathway abnormality
- CHRCC- jiná architektonika a cytologie, CK7 je obvykle +++, postrádá mTOR pathway abnormality
- ESC- jiná architektonika, nemá vakuoly, častá CK20 pozitivita, genetika je podobná
- BHD syndrom tumory- takřka identické, včetně IHC profilu- nutno vyloučit geneticky



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- ESC- jiná architektonika, nemá va
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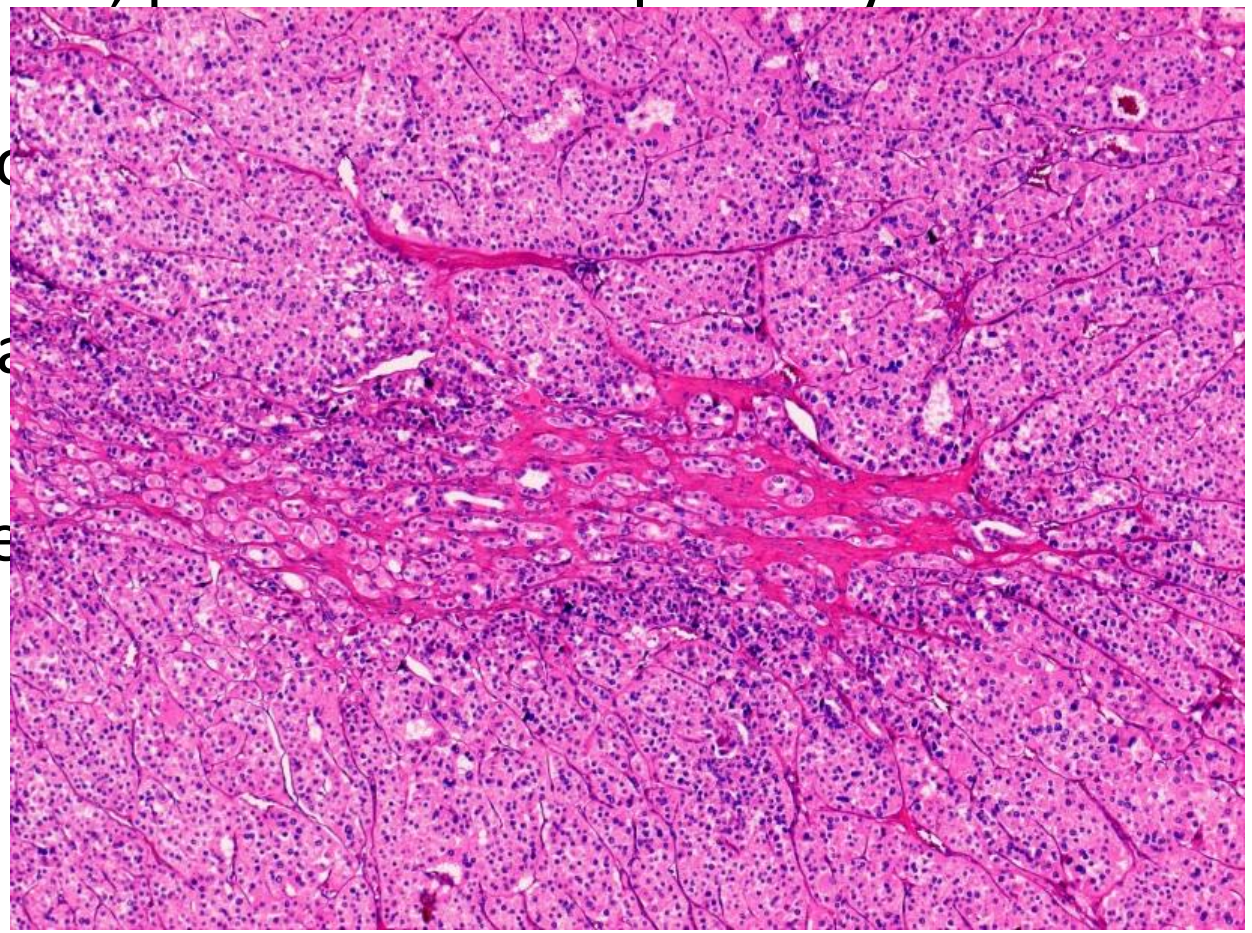

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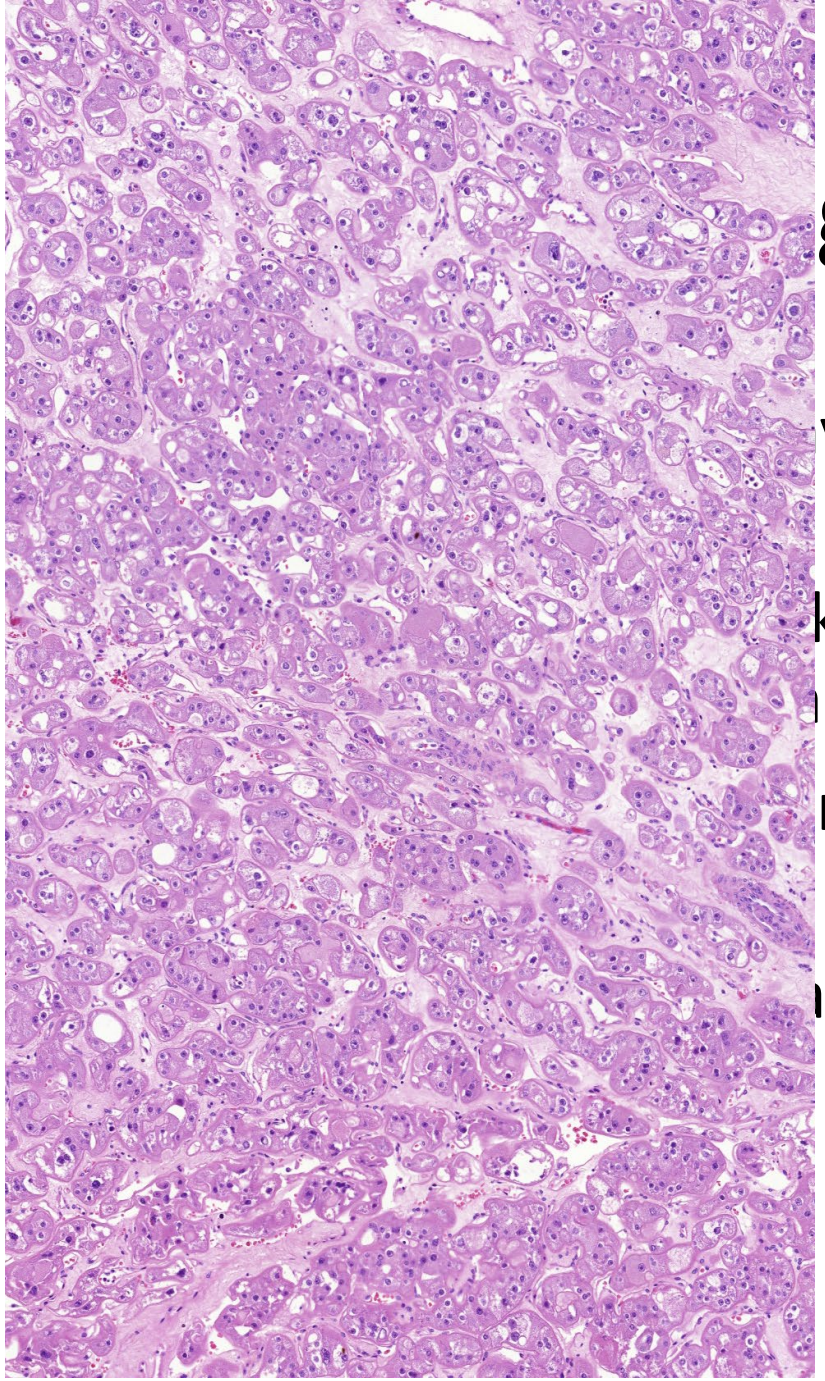

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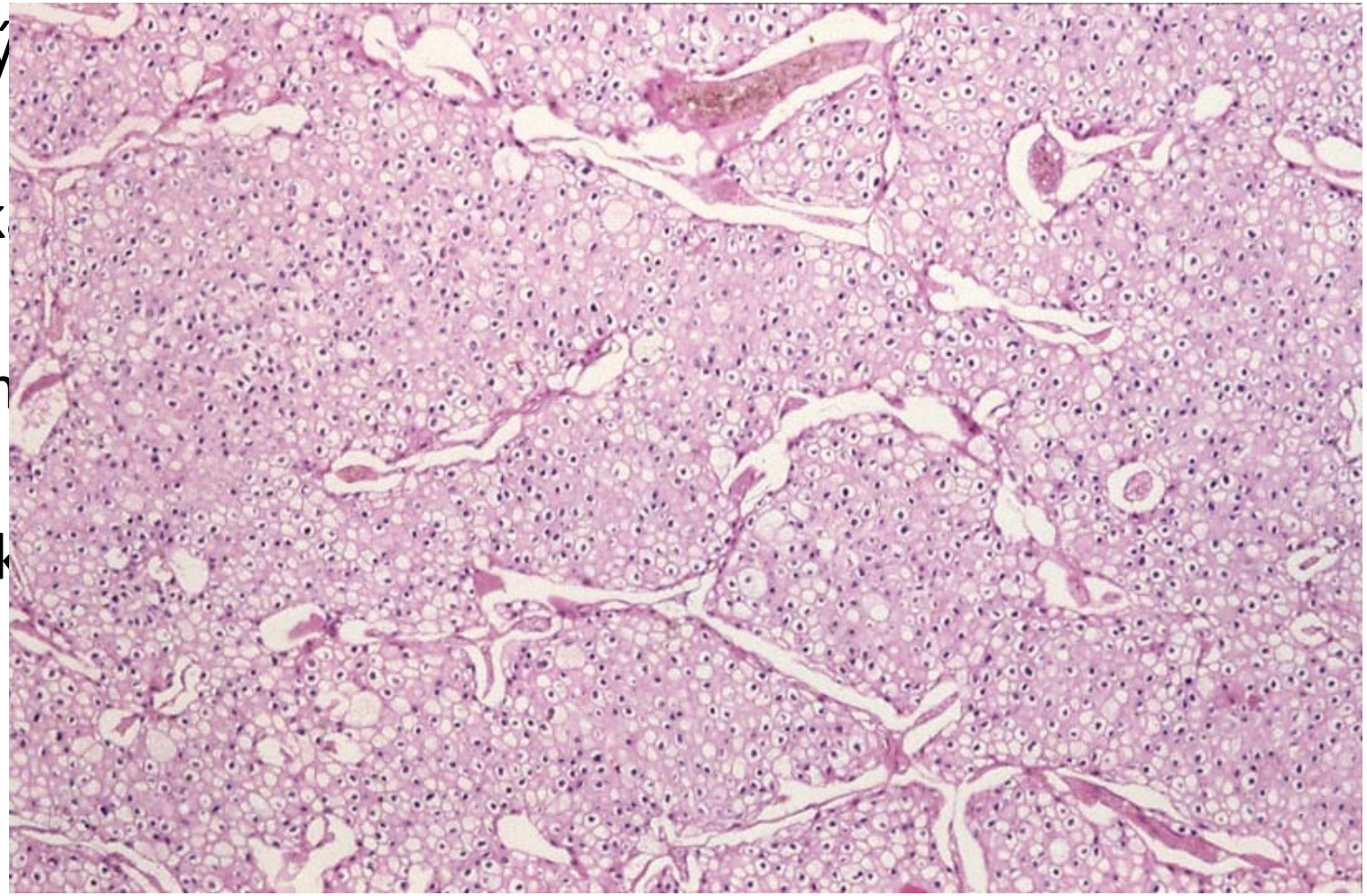

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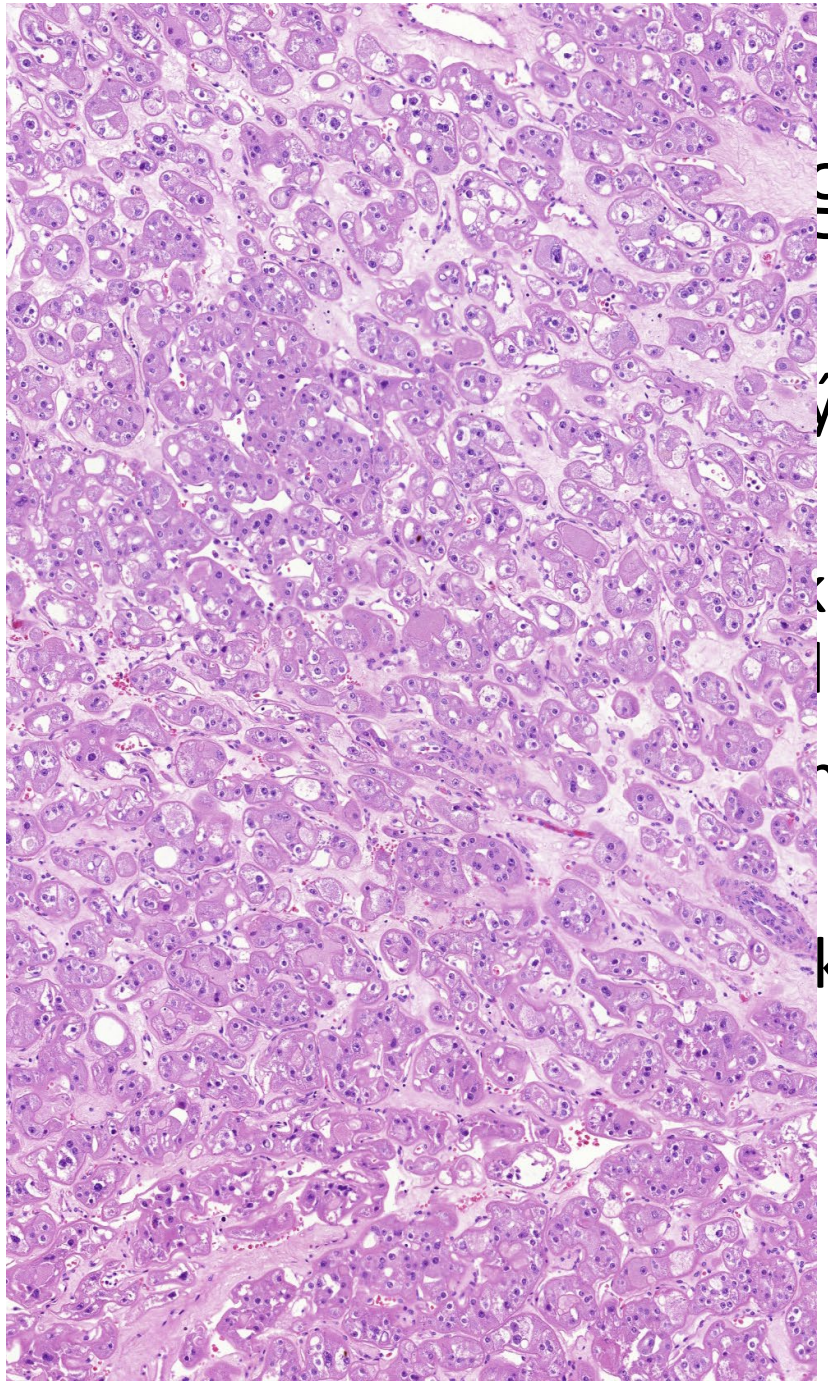

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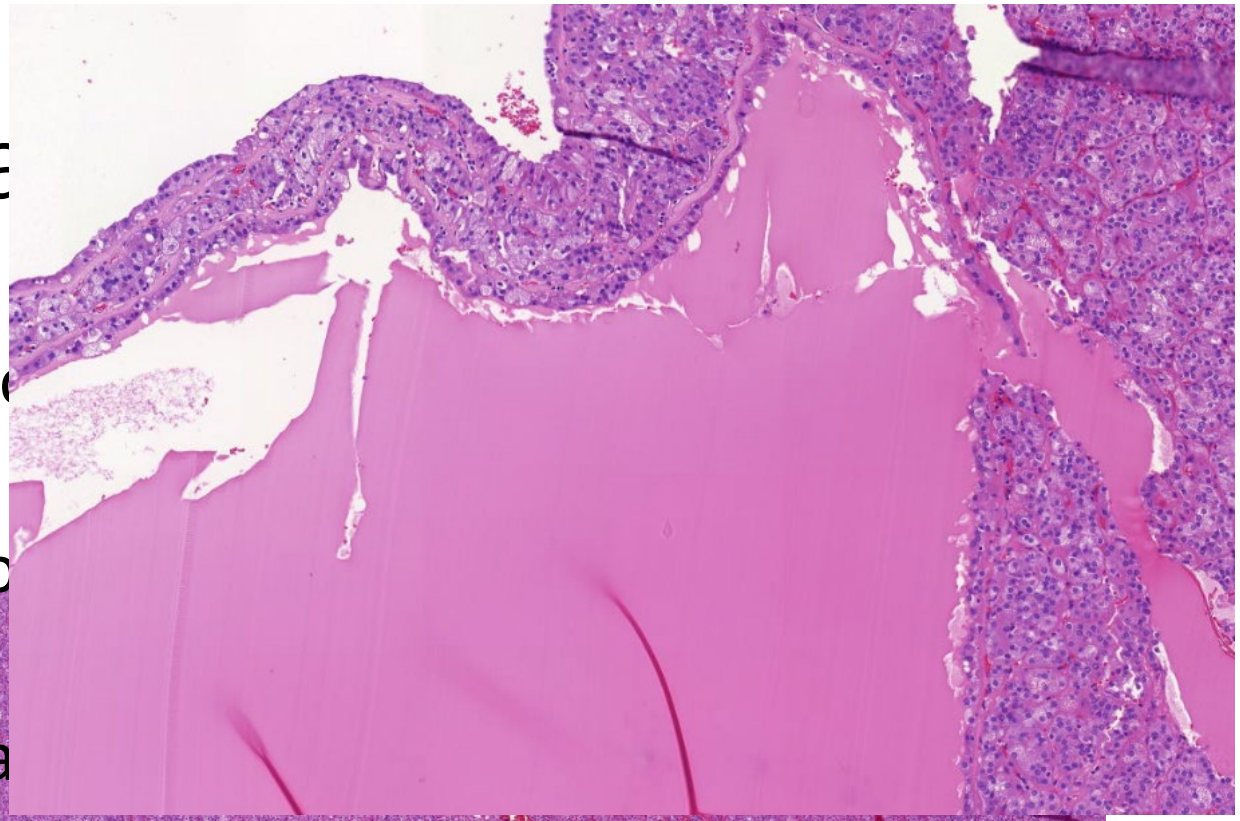
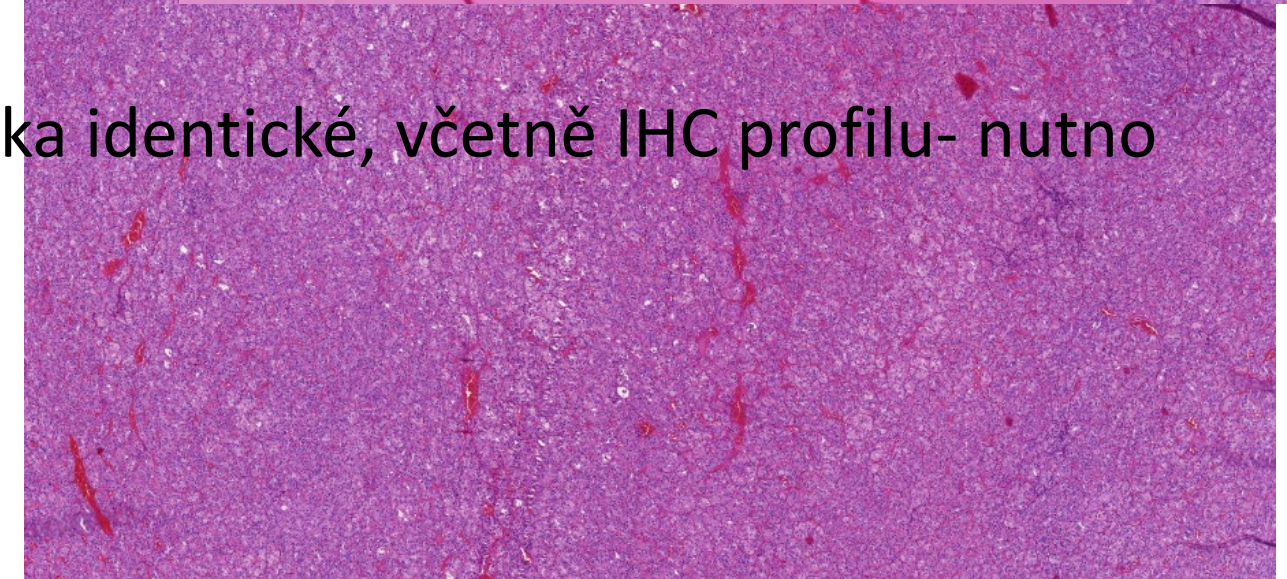


křka identické, včetně IHC profilu- nutno



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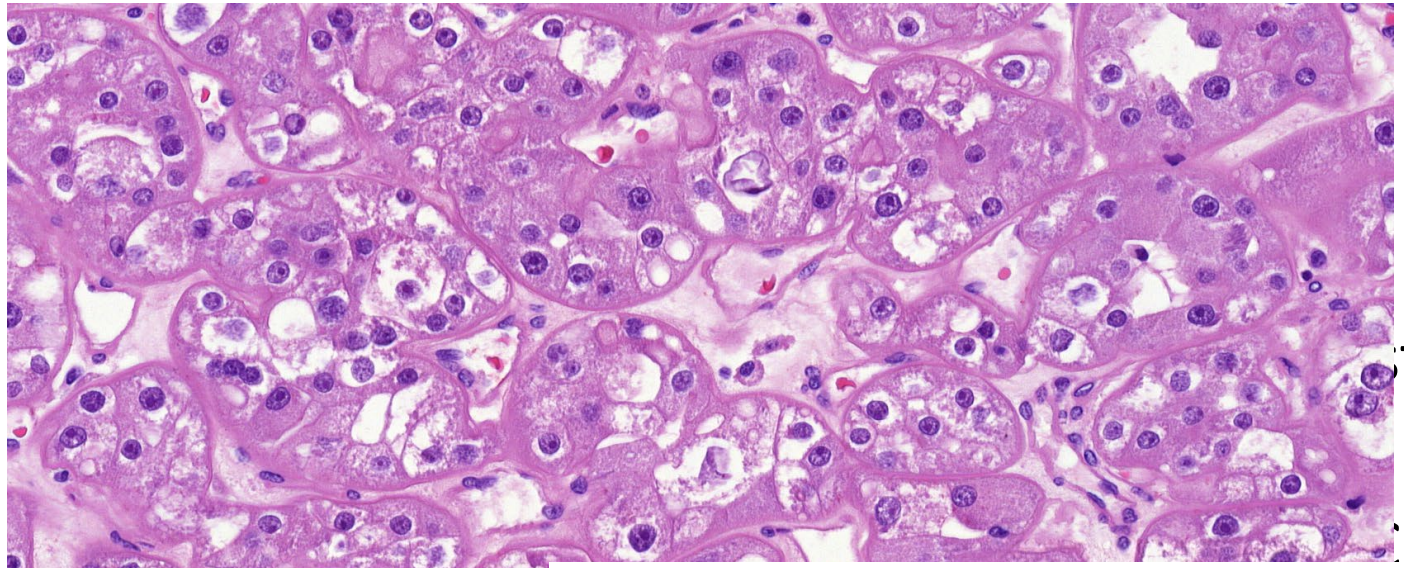

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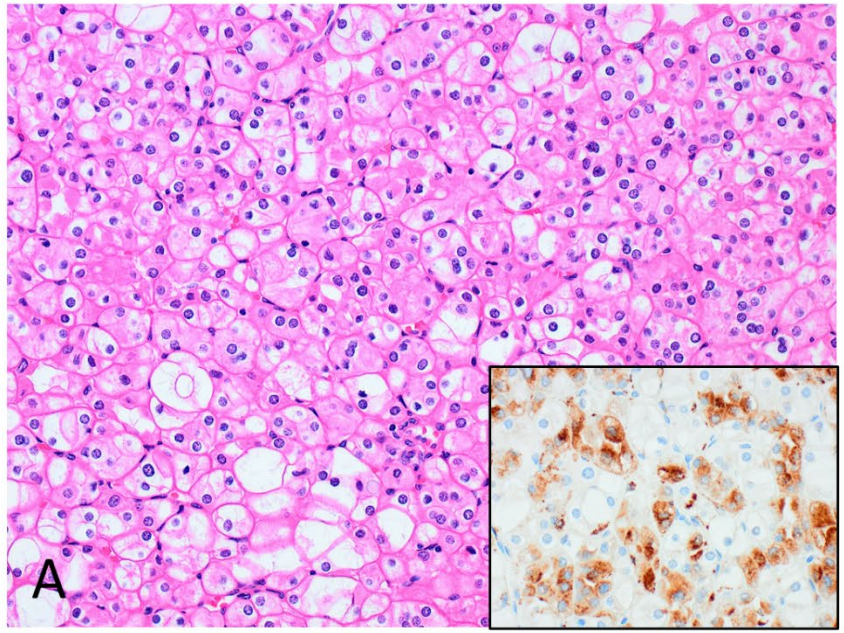
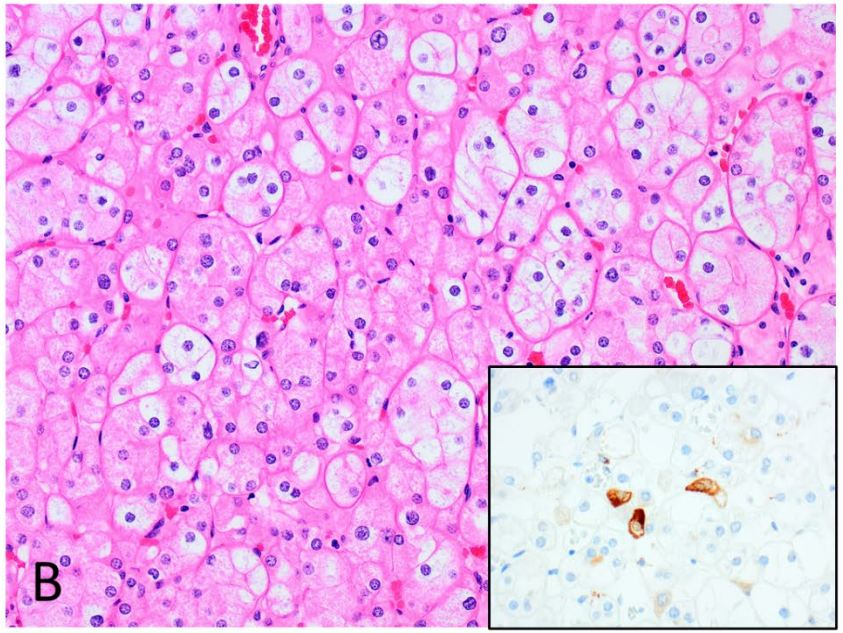
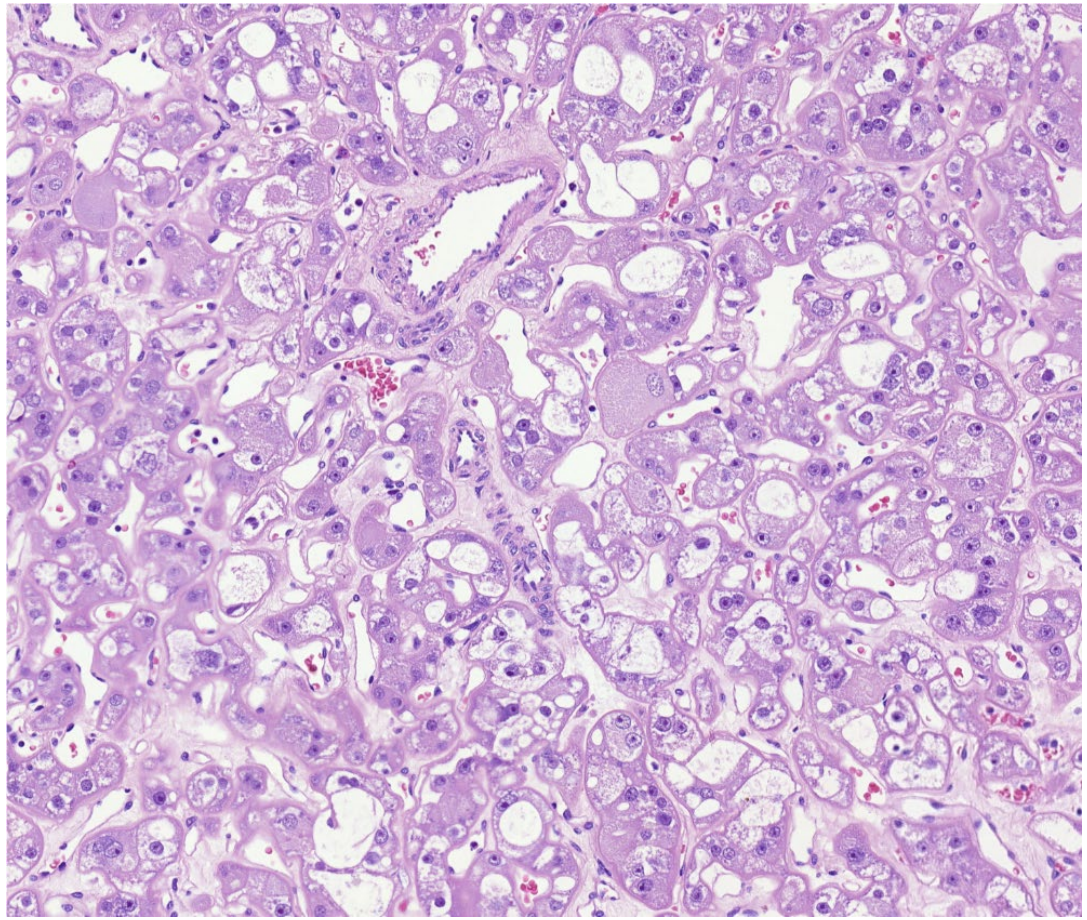
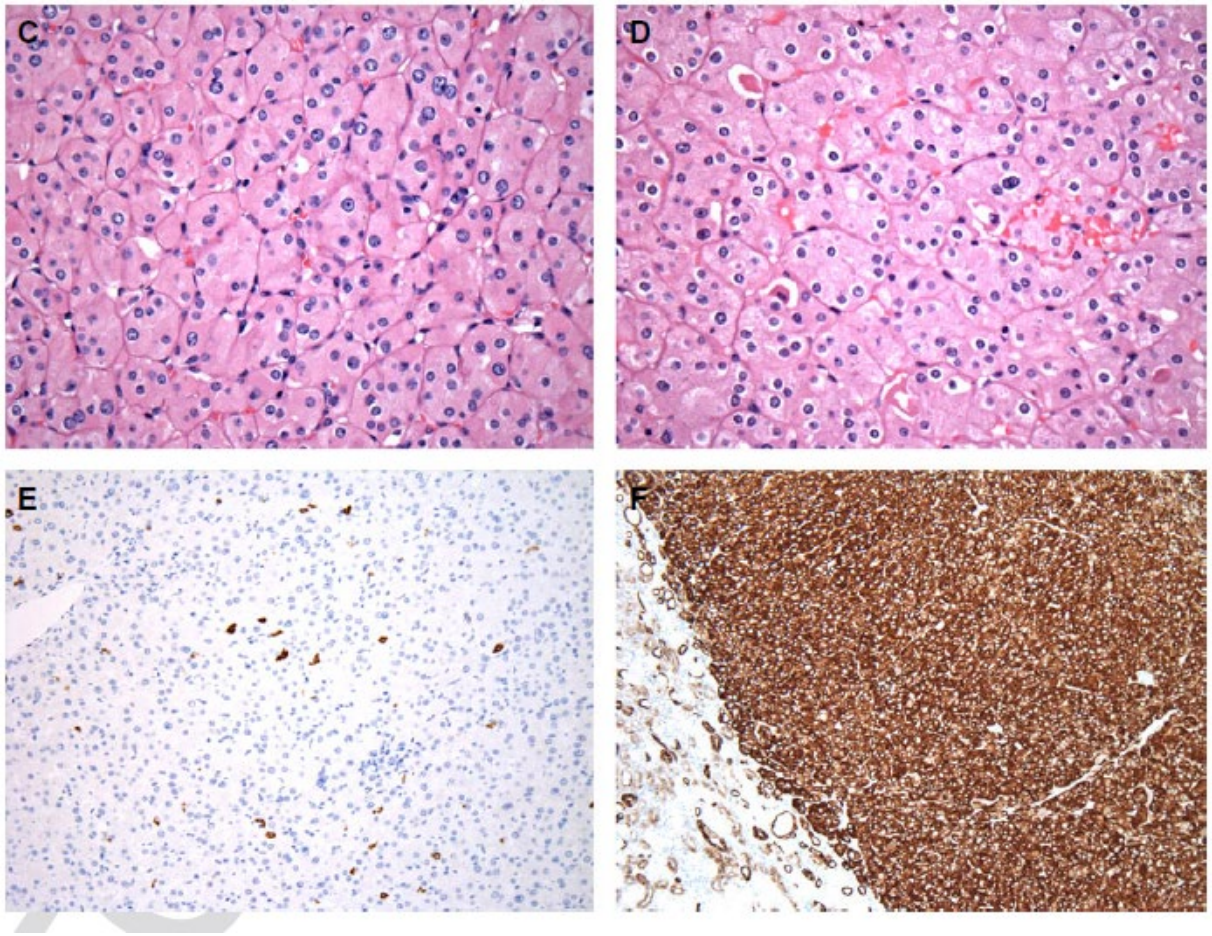




EVT



LOT



Eosinophilic Vacuolated Tumor

- Low-stage tumors
- Zatím bez agresivního případu, přestože vypadají divoce
- Kompaktní růst
- Eosinofilní buňky s výraznými vakuolami a nepravidelnými jádry
- Pozitivní s cathepsinem K, CD117, CD10, CK 7- onkocytický typ reakce
- Abnormality v *TSC1*, *TSC2, mTOR*

Kidney Tumor Friends ~~2020~~ 2021, 5. ročník

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Amin Mahul *(Memphis)*
Comperat Eva *(Vienna/Paris)*
Tretiakova Maria *(Seattle)*
Vujanic Gordan *(Dauha)*
Zhou Ming *(Boston)*
Jose Lopez *(Bilbao)*
Nesi Gabriella *(Florence)*
Agaimy Abbas *(Erlangen)*
Hardtmann Arndt *(Erlangen)*
Osunkoya Boye *(Atlanta)*
Gatalica Zoran *(Oklahoma)*
Yang Ximing *(Chicago)*

Reza Alaghehbandan *(Vancouver)*
Siadat Farshid *(Calgary)*
Calio Anna *(Verona)*
Martignoni Guido *(Verona)*
Kristyna Pivovarcikova *(Plzen)*
Kiril Trpkov *(Calgary)*
Joanna Rogala *(Wroclaw)*
Kvetoslava Michalova *(Plzen)*
Rajal Shah *(Dallas)*
Monika Ulamec *(Zagreb)*
Michal Michal *(Plzen)*
Ondřej Hes *(Plzen)*

COURSE STRUCTURE

The meeting will take place in the **Biopticka laborator s.r.o.**

The format of the meeting will be a combination of a **slide seminar** (multihead microscope, Thursday, OCT 14) **and lectures** (Friday-Saturday, OCT 15-16th.

The meeting will focus mainly on diagnostics problems in general GU pathology, rare and new kidney, testicular tumors and prostatic lesions. WHO 2021 and GUPS updates were/will be published in 2021. Vast majority of the speakers were authors of both classifications, therefore it is possible to expect brand new reviews of GU problematic. Due to the limited

Kidn ík

www.patologie.cz

14.-16.10.2021 Plzeň

problematic. Due to the limited

Děkuji za pozornost

Žinkovy, Czech Republic, 2/2021