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Oncology

Prostatic metastasis from intrahepatic cholangiocarcinoma

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Introduction

Intrahepatic cholangiocarcinoma (ICC) is the second most frequently developed primary carcinoma of liver and considered to be an incurable and rapidly growing tumor with poor survival. They are biologically aggressive and they are frequently discovered in advanced stage. Common tumor metastasis sites for ICC include regional lymph nodes as well as liver metastasis as an indication of tumor recurrence. Only a few cases of ICC metastasizing to the male urogenital tract have previously been reported. Surgical removal is the only curative therapeutic method for treatment of such tumors.

Case presentation

A 77-year-old patient with a history of ICC, who has been treated with MH, cholecystectomy and right adrenalectomy (ADR) for centrally located liver tumor with an initial tumor classification of (TNM): pT1, pNx, L0, V0, G2 with positive resection margins (R1) in June 2016–9 months before the current evaluation - was admitted to a tertiary referral clinic due to intermittent episodes of hematuria and lower urinary tract symptoms (LUTS). During TUR-P a large suspicious mass involving the left lobe of the prostate was detected and subsequently resected.

The examination of the prostate tissue showed perineural tumor propagation and lymphangiosis carcinomatosis. The tumor cell and the tumor tissue from the liver showed a strong positivity for CK 7, CK 19, GATA 3 and for AR, just a few tumor cells were also positive for CA 19–9. Furthermore large parts of the tumor also showed positivity for CK-20 and negativity for PSA, AMACR, synaptophysin and TTF1. The Ki-proliferation rate was considerable high with 75%.

In conclusion the histological examination of the resected prostate and primary hepatic tissue proved the diagnosis of primary prostatic metastasis from ICC (Fig. 1A and B).

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Abbreviations

ICC	intrahepatic cholangiocarcinoma
MH	mesohepatectomy
TUR-P	transurethral resection
LUTS	lower urinary tract symptoms
ADR	adrenalectomy
TNM	classification of malignant tumor
CK	creatine kinase
AR	androgen receptor
PSA	prostatic specific antigen
PCA	prostate cancer
GATA3	transcription factor
CA 19-9	carbohydrate antigen
AMACR	alpha-methyl CoA racemase
TTF-1	Thyroid transcription factor
Ki-67	proliferation marker
VEGF	vascular endothelial growth factor

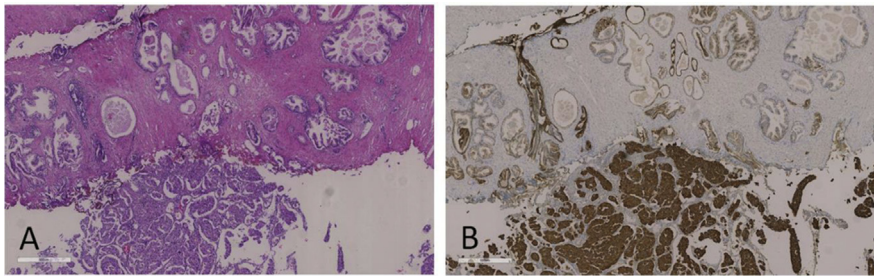

Fig. 1. A) Histological aspect of tumor with tight gland complexes with partly distinctive tubular tumor formation B) Immunhistological positivity for CK 7 and weakly positive for CA 19–9.

Discussion

ICC is considered to be an incurable, rapidly lethal cancer. Long-term survival is only observed in patients with limited disease that have been resected with clear margins.

The second pathological report of the prostate tissue revealed prostatic metastasis from ICC with identical origin. Irradiation therapy of the prostate in combination with adjuvant chemotherapy could be taken in consideration, if the prostate was the single origin of metastatic spread of tumor cells from a primary neoplasm.[1]

Prostate cancer (PCA) and ICC have the ability to secrete common growth factors like VEGF-C, which were overexpressed in both tumor entities, and promote lymphangiogenesis.[2,3] Autocrine regulation of lymphangiogenic growth factors may elicit divers effects on angiogenesis in this case. Ki-67 index has demonstrated on multivariate analysis, to be a significant independent risk factor for poor prognosis in ICC[4] and is also significantly up-regulated in PCA.[5] The Ki-proliferation rate was considerable high in this case of ICC with 75%. The remarkable proliferation for progression and further development to a more aggressive malignancy in this particular case remains elusive.

Conclusion

This case report represents the first case of prostate metastasis from ICC described in literature.

Conflicts of interest

All authors declare no financial conflicts or conflict of interest with respect to this manuscript.

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