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Title: The synchronous gastrointestinal neuroendocrine tumors, colorectal adenocarcinoma and liver cavernous hemangioma-histopathological, immunohistochemical and genetic case report study

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The incidence of synchronous gastrointestinal neuroendocrine tumors (NET) and colorectal cancer is very low (Yumoto S, 2020). NET are relatively rare tumors and located most commonly in the gastrointestinal tract mainly in small intestine and rectum. Generally, NETs often show hematogenous metastases, and the most frequent site of distant spread is liver (Yumoto S, 2020). Colorectal carcinoma is one of common malignant tumor. The adenocarcinoma is the frequent histopathological tumor type. (Yumoto S, 2020). The synchronous tumors usually are inherited and are related with multiple endocrine neoplasia syndrome (Yumoto S, 2020).

We report the case of a 70-year-old male with multiple sinchronous tumours- primary small intestinal neuroendocrine tumor, colorectal carcinoma and liver cavernous hemangioma. A 70 years old male was addmitted at Pauls Stradins Clinical University Hospital with previously biopsy proved Grade 2 colorectal carcinoma for surgical treatment.

Clinical examination was performed. CT scanning showed suspicious liver mass, probably metastasis. In addition, in small intestine mass lesions were observed. The surgical treatment was performed. The histopathological, immunohistochemical and genetic examination was performed. The comprehensive next generation sequencing was performed (Quigen). Such genes were analyzed-APC, AKT2, AKT3, AR, ARAF, ARID1A, BAP1, BRCA1, BRCA2, BRAF, CDH1, CDK4, CSF1R, CDKN, CTCF, ERBB3, ESR1, FAT1, FOXL2, GATA3, GNA11, GNAQ, H3F3A, HIST1H3 B, HNF1A, HRAS, IDH1, IDH2, JAK2, KDR, KRAS, KEAP1, KMT2C, KMT2D, MAP2K2, MLH1, NF1, NFE2L2, PDGFRA, PIK3R1, POLE, RAC1, RB1, RHOA, SF3B1, SMARCB 1, SRC, TSC1, TSC2, U2AF1, VHL. Histopathological examination demonstrated multiple sinchronous tumors. The patients has liver cavernous hemangioma, muliple small intestinal neuroendocrine tumor Grade 2 (NET Grade 2) measured 0.4 cm ø and 0,6 cm ø , pT3(m)N0M0 and Grade 3 colorectal adenocarcinoma, pT2N1cM0. Immunohistochemical examination confirmed NET diagnosis, the tumor was positive for chromogranene and synaptophysine, Ki-67 index was 5%. The Grade 3 colorectal adenocarcinoma was positive for CKAE1/AE3. Obtained results showed that small intestine NET had CDKN1B, DAXX and ATRX mutations, however MLH1, MSH2, MSH6, PMS2 mutations have not been observed. Colorectal adenocarcinoma had p53, SMAD4, PIK3CA and BRAF mutations, however MLH1, MSH2, MSH6, PMS2 and KRAS mutations have not been identified. To conclude, our case report rare coexistent synchronous tumors-liver cavernous hemangioma, small intestinal neuroendocrine tumors and colorectal adenocarcinoma. Based on NGS analysis small intestinal NET more likely corresponded to MEN 4 syndrome, however the genetical mutations of colorectal carcinoma demonstrated MSI wild type tumour which did not fulfill with MEN syndrome.

This case emphasizes that for synchronous cancer the surgical resection and hitopathological examination is requiered before systemic therapy regardless of the difference in prognosis between the synchronous tumors.

Biography

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Biography

Liga Sulca, MD, graduated from Faculty of Medicine, University of Latvia in 2020. Currently she is a 2 year resident at Riga East University Hospital, Centre of Pathology and University of Latvia. Interested in gastrointestinal pathology, renal pathology and neuropathology. Participated in different local and international scientific conferences.

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