

Two rare cases of pleural effusion in hematologic-oncologic patients: a connection between two cavities and mycobacteria

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Case presentation:

Case I:

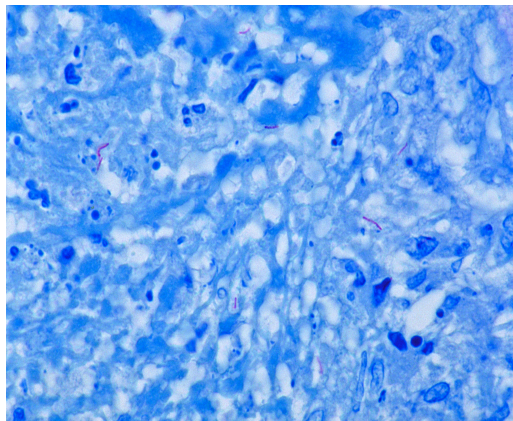
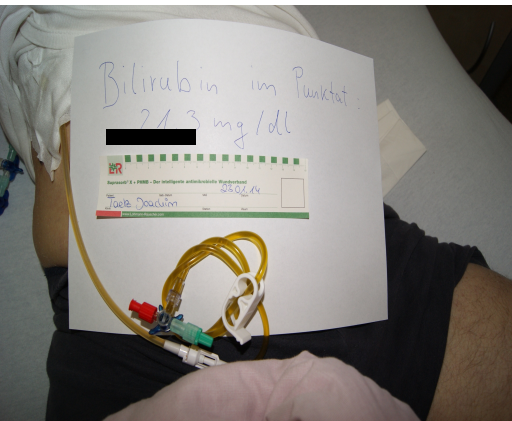
A 64 year old male was diagnosed with resectable cholangiocellular cancer in November 2013. A resection of the left liver lobe, of the caudate lobe and the portal vein was performed, biliary drainage was achieved by a biliodigestive anastomosis. In the pathological examination however an infiltration of the peritoneum by the adenocarcinoma became evident, tumor stage was pT3, pN1, G2, L1, V0, M1. The patient afterwards received an "additive" systemic chemotherapy with gemcitabin + oxaliplatin for six months. In a routine staging computertomography in October 2014 new metastasis of the abdominal wall and the peritoneal cavity were detected. Furthermore a bilioma became evident and was drained by CT-guided

puncture. Due to persisting pain in the right upper abdomen and dyspnea the patient presented himself at a university hospital. In an MRCP a bilioma of 14x7x7.5 cm was seen in the right liver lobe with no detectable connection to the intrahepatic bile duct system. A CT-guided puncture was performed and 500ml of yellowish secretion were drained. An internal drainage via ERCP was not successful as the biliodigestive anastomosis was not detectable. Additionally, a pleural effusion of 1.500ml in the right pleural cavity was drained where cytologically malignant cells were shown. To further remediate the bilioma, a CT-guided, internal and external drainage was placed in the right intrahepatic biliary tract system and left for further 4 weeks. Due to ascites, the incision became leaky and drained several hundreds of milliliter ascites per day. Meanwhile, a second-line chemotherapy with the FOLFIRI-regimen was started. In January 2015, the external drainage was removed and replaced by an internal metal-stent via x-ray guided puncture.

The patient afterwards presented at our practice and was hospitalized due to dyspnea and nausea. For drainage, a PleurX® catheter system was placed, purging yellowish effusion with a bilirubin level of 21,3 mg/dl. As a reason, a bilio-pleural fistula during the placement of the internal and external biliary drainage was supposed. The patient died two weeks later due to the advanced cholangiocellular cancer.

Case II:

A 69 year old male patient regularly received transfusions for myelodysplastic syndrome with refractory anemia (MDS). Towards the end of 2014, the patient increasingly suffered from dyspnea, caused by left-sided pleural effusion. As the pleural effusion rapidly and repeatedly reappeared after relief, pleural biopsies were gained by thoracoscopy. Pathologic examination revealed an exsudative pleurisy with caseating granuloma, highly suspicious for tuberculous pleurisy. A cultural proof of mycobacteria was still pending and imaging did not show pathognomonic signs of tuberculosis. However, an immediate quadruple-therapy was initiated. In several follow-up visits, the patient's performance status stabilized and pleural effusion was significantly regressive.



Far left:

Drain of a PleurX® catheter filled with yellowish effusion containing 21,3mg/dl bilirubin due to bilio-pleural fistula after CT-guided puncture.

Left:

Ziehl-Neelsen stain showing mycobacterium tuberculosis; Obtained from the CDC [Public Health Image Library](https://www.cdc.gov/publichealthimage/)

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Conclusion:

In case 1, the drainage of the bilioma was significantly hindered by multiple pretreatments (liver resection, biliodigestive anastomosis). Setting a drainage was upfront technically demanding and linked with a high danger of complications and finally resulted in a bilio-pulmonary fistula.

In case 2, the patient did not obviously have a geographical risk for tuberculosis (born after 1945, residence in western Europe), however due to immunosuppression by MDS also the putatively rare reason for pleural effusion must be considered.