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NEWS

In this issue

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In the times of this tremendous COVID-19 pandemic there is still need for non-COVID-19 related research and patient treatment. In this issue several interesting articles deal with topics from various organ systems including the gastrointestinal tract, the lungs and the kidneys. In addition, a review article covers an interesting cardiovascular topic.

Angelini and colleagues report on behalf of the Association of European Cardiovascular Pathology on adults with congenital heart disease (CHD) studied by autopsy. Today, more than 90% of CHD patients are adults with increasing percentage. They describe the most common types of CHDs that a pathologist could encounter at autopsy, including the various types of surgical and percutaneous procedures and also propose a practical systematic approach to the autopsy of ACHD patients (https://doi.org/10.1007/s00428-020-02779-8; illustrated on the cover page).

Carcinomas in colorectal adenomas show a favorable prognosis in the absence of adverse factors such as lymph vascular space involvement, tumor budding, margin involvement and poor histological grade. Due to the increased number of participants in screening programs this disease is becoming increasingly important. Berg et al. found in a retrospective cohort of 216 malignant polyps that the adoption of submucosal depth to 2mm, and the refinement of the cut-offs for positive margins and submucosal depth have the potential to identify high risk patients and reduce the number of surgeries (https://doi.org/10.1007/s00428-019-02711-9).

Congenital pulmonary airway malformation (CPAM) is a developmental disorder, which may be associated with pulmonary adenocarcinoma and its precursor atypical goblet cell hyperplasia (AGCH). Various proteins associated with CPAM development such as forkhead box A1 and A2 (FOXA1 and FOXA2), fibroblast growth factor 10 (FGF10), fibroblast growth factor receptor 2 (FGFR2) and others were studied by Fakler et al. and differences between CPAM, AGCH and adenocarcinoma were found for some but not for others. In contrast, K-RAS mutations, associated with HER2 overexpression were found as potential oncogenic drivers only in AGCH and adenocarcinomas but not in CPAM (https://doi.org/10.1007/s00428-019-02732-4).

The presence of multiple synchronous foci of pulmonary adenocarcinoma is a practical issue for staging but the available histological criteria are of limited value. Donfrancesco et al. studied the application of an NGS panel in a cohort of 24 patients with synchronous tumor foci and correlated the molecular findings with histological features. NGS seems to bring insights into the relationship between multiple synchronous foci of pulmonary adenocarcinoma and, therefore, seems to be helpful for staging in contrast to histological examination by itself which does not seem to be sufficient even in the presence of a similar growth pattern. In addition, molecular staging seems to be in accordance with progression free survival and, subsequently, of some prognostic value (https://doi.org/10.1007/s00428-019-02736-0).

Criteria and biomarkers to predict recurrence of ductal carcinoma in situ (DCIS) of the breast after breast conserving therapy and progression to invasive carcinoma are clinically important. To study the role of immune response for tumor progression and treatment outcome Chen et al. investigated the impact of stromal macrophages on recurrent disease. They analyzed CD68 and CD163 immunoreactivity and correlated the results with other histological and immunohistochemical features and the patients' outcome. High density of both CD68+ and CD163+ macrophages in the stroma between the involved ducts were associated with adverse features such as high nuclear grade and negativity for ER and PR with some difference between CD68 and CD163. DCIS with higher macrophage density was associated with poorer prognostic parameters, and in particular DCIS with higher CD163+ macrophage density predicted recurrence and ipsilateral invasive recurrence (https://doi.org/10.1007/s00428-019-02735-1).

Acid ceramidase (ASAH1), a key player in sphingolipid metabolism and signaling has prognostic value for several cancer types. Its value for ovarian carcinomas was studied on three retrospective TMA cohorts encompassing a total of 1106 tumors by El-Balat et al. ASAH1 immunoreactivity in ovarian carcinomas was associated with favorable prognosis and seems to be most frequently expressed in endometrioid and clear cell histotypes, and in the endometrioid type it could add independent prognostic value to ER. Modulating

sphingolipid metabolism may lead to novel therapeutic intervention strategies for this disease (https://doi.org/10.1007/s00428-019-02728-0).

Hang et al. detected a novel PLEKHA7exon18-ALKexon20 fusion in the rare and new type of an ALK-rearranged renal cell carcinoma with metanephric adenoma like (low grade) morphology using ArcherDX FusionPlex next generation sequencing panel. The findings which were further confirmed with reverse-transcriptase PCR may qualify the tumor for ALK inhibitor therapy (https://doi.org/10.1007/s00428-020-02752-5).