Frontiers in Gynecologic Pathology

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In this special section we present 5 articles as the proceedings of the Fourth Princeton Integrated Pathology Symposium (PIPS): Gynecologic Pathology, as well as an update on gestational trophoblastic tumors. The symposium took place at the Princeton Medical Center, Plainsboro, New Jersey, on Sunday April 23, 2017. Here, we continue to focus on both "bread-and-butter" and "zebra" topics.

Young shares his detailed career experiences in the diagnosis of ovarian sex cord–stromal tumors, including sclerosing stromal tumor, luteinized thecomas of the type associated with sclerosing peritonitis, ovarian myxoma, signet ring stromal tumor, microcystic stromal tumor, adult and juvenile granulosa cell tumors, Sertoli–Leydig cell tumors, retiform tumors, and sex cord tumor with annular tubules. He also provides personal and historic accounts, under the tutelage of the late Robert E. Scully, MD, on the characterization of these fascinating tumors in the early years. Invaluable to our understanding of ovarian sex cord–stromal tumors, this comprehensive review is simply an elegant masterpiece and in our view could serve as a classic textbook chapter.

Morphologic evaluation of hydatidiform moles continues to suffer from interobserver diagnostic variability, demanding the need for new diagnostic modalities. In recent years, analysis of p57 expression by immunohistochemistry (IHC) and polymerase chain reaction–based DNA genotyping have emerged as powerful diagnostic methods for accurate classification of hydatidiform moles. The p57 IHC stain alone can confirm a diagnosis of complete moles but cannot differentiate partial moles from nonmolar cases. DNA genotyping, as Ronnett explains, can precisely classify partial moles from nonmolar cases. Algorithmic approaches combining histology and these ancillary techniques provide the best diagnostic practice.

Pathology is an integrated component of modern medicine and plays a critical role in patient management. Cory and Morgan provide an update on the modern management of women with gynecologic malignances, including cervical, vulvar, endometrial, and ovarian cancers. They also relate the roles of pathology in the clinical decision-making of these cancers. Their perspectives in this regard are important to pathologists because, only when pathologists and clinicians well understand each other, can we work collaboratively and efficiently for the best interest of our patients.

Part II will begin with a review by Hodgson and Park of cervical adenocarcinomas with a focus on their variable etiologies and clinical outcomes. According to the recently published International Endocervical Adenocarcinoma Criteria and Classification (IECC), cervical adenocarcinomas are classified into either human papillomavirus (HPV)–associated or HPV-unassociated type. The HPV-associated cervical adenocarcinomas include usual-type, mucinous, and villoglandular adenocarcinomas, as well as invasive stratified mucin–producing carcinoma (iSMILE). The HPV-unassociated cervical adenocarcinomas include clear cell, mesonephric, and serous carcinomas, and gastric-type endocervical, endometrioid, and not-otherwise-specified adenocarcinomas. As a handy reference, the key diagnostic and IHC features of the IECC classification are concisely summarized in tables.

Frozen section diagnosis of ovarian tumors is frequently challenging owing to numerous entities and their variants. Buza presents the frozen section diagnostic pearls and pitfalls of epithelial tumors in the ovary, including primary and metastatic tumors. The 3 cornerstones of intraoperative consultation, including clinical history, gross findings, and microscopic features, are the fundamental basis for a successful frozen section evaluation. On gross examination, attention should be directed to the tumor size, bilaterality, cut surface, and thorough sampling of intracystic papillary and solid areas. The frozen section morphologic features of mucinous, serous, endometrioid tumors and clear cell tumors are discussed with emphasis on interpretation pitfalls along with their differential diagnoses.

Complementary to the symposium, Hui contributes an update on the clinical presentations and diagnostic features of gestational trophoblastic tumors, including gestational choriocarcinoma, placental site trophoblastic tumor, and epithelioid trophoblastic tumor. Trophoblastic tumors became rare entities in the modern world and may present...
significant diagnostic challenges. A battery of morphologic characteristics and ancillary biomarkers are listed to assist readers in working up these potentially challenging trophoblastic tumors. Recent attention has been focused on early forms of trophoblastic tumors, such as early/in situ choriocarcinoma and atypical placental site nodule.

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