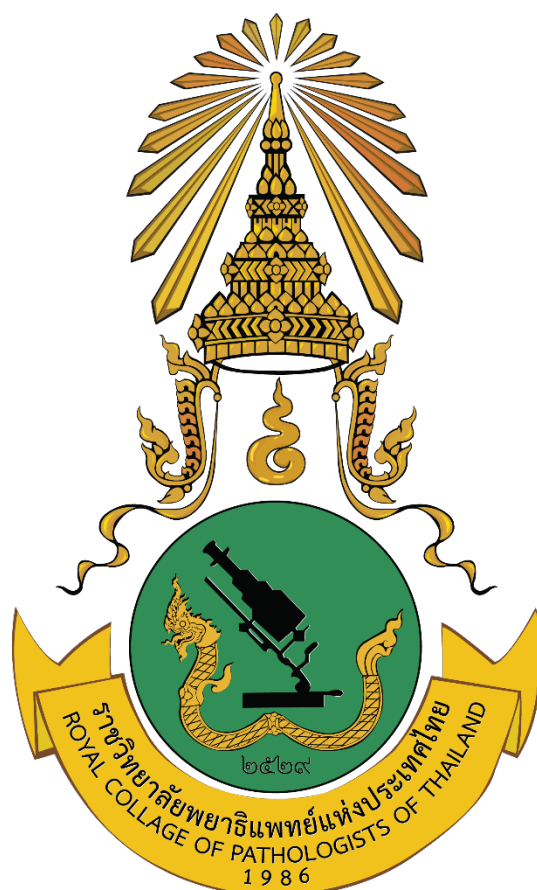


# ASIAN ARCHIVES OF PATHOLOGY

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### Aims and Scope

Asian Archives of Pathology (AAP) is an open access, peer-reviewed journal. The journal was first published in 2002 under the Thai name “วารสารราชวิทยาลัยพยาธิแห่งประเทศไทย” and English name “Journal of the Royal College of Pathologists of Thailand”. The journal is a publication for workers in all disciplines of pathology and forensic medicine. In the first 3 years (volumes), the journal was published every 4 months. Until 2005, the journal has changed its name to be “Asian Archives of Pathology: The Official Journal of the Royal College of Pathologists of Thailand”, published quarterly to expand the collaboration among people in the fields of pathology and forensic medicine in the Asia-Pacific regions and the Western countries.

The full articles of the journal are appeared in either Thai or English. However, the abstracts of all Thai articles are published in both Thai and English languages. The journal features letters to the editor, original articles, review articles, case reports, case illustrations, and technical notes. Diagnostic and research areas covered consist of (1) **Anatomical Pathology** (including cellular pathology, cytopathology, hematopathology, histopathology, immunopathology, and surgical pathology); (2) **Clinical Pathology (Laboratory Medicine)** [including blood banking and transfusion medicine, clinical chemistry (chemical pathology or clinical biochemistry), clinical immunology, clinical microbiology, clinical toxicology, cytogenetics, parasitology, and point-of-care testing]; (3) **Forensic Medicine (Legal Medicine or Medical Jurisprudence)** (including forensic science and forensic pathology); (4) **Molecular Medicine** (including molecular genetics, molecular oncology, and molecular pathology); (5) **Pathobiology**; and (6) **Pathophysiology**.

All issues of our journal have been printed in hard copy since the beginning. Around the late 2014, we developed our website ([www.asianarchpath.com](http://www.asianarchpath.com)) in order to increase our visibility. We would like to acknowledge that our journal has been sponsored by the Royal College of Pathologists of Thailand. We have the policy to disseminate the verified scientific knowledge to the public on a non-profit basis. Hence, we have not charged the authors whose manuscripts have been submitted or accepted for publication in our journal.

On the other hand, if any authors request a printed copy of the journal issue containing the articles, each of the copied journals costs 450 baht for Thai authors and 30 United States dollars (USD) for international authors.

### Publication Frequency

Four issues per year

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November 2<sup>nd</sup> - 4<sup>th</sup>, 2022



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| Aug 1 <sup>st</sup> - Sep 30 <sup>th</sup> | 120                             | 100                         | 2500                   | 2000               |
| Oct 1 <sup>st</sup> - Oct 20 <sup>th</sup> | 140                             | 120                         | 3000                   | 2500               |

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## ABSTRACTS

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### [IAP-01] Inflammatory Myofibroblastic Tumour (IMT) of the Urinary Bladder: A case report and review of literature

Chew Bee See<sup>1\*</sup>, Sugunah A/P Sallapan<sup>1</sup>, Asmawiza Awang<sup>1</sup>, Durvesh Jethwani<sup>2</sup>, Fong Voon Yen<sup>2</sup>, Noorjehan Omar<sup>1</sup>, Warren Lo Hwa Loon<sup>2</sup>, Noraini Mohd Dusa<sup>1</sup>

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2. Department of Urology, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

**Background:** Inflammatory myofibroblastic tumour (IMT) is a distinctive mesenchymal neoplasm composed of myofibroblastic cells phenotype accompanied by a stromal inflammatory infiltrate of lymphocytes and plasma cells. It can occur at various sites in genitourinary system, but the urinary bladder is the common site.

**Objective:** IMT presents a diagnostic challenge because of the characteristics it shares with malignant spindle cell neoplasm.

**Case description:** A 23-year-old woman who presented with gross haematuria and treated with cystoscopy and transurethral resection of bladder tumour. Histologically, the bladder tumour showed plump polygonal to spindle-shaped neoplastic cells dispersed in myxoid stroma with inflammatory infiltrate of lymphocytes and plasma cells with abundant blood vessels. Immunohistochemical studies showed the neoplastic cells are positive for anaplastic lymphoma kinase 1 and SMA; and they are negative for cytokeratin AE/AE3, Desmin, Myogenin, CD117, CD34 and S100.

**Conclusion:** Urinary bladder IMT is considered a neoplasm of intermediate malignant potential with the capability for rare metastasis. It can be difficult to distinguish IMT from sarcomatoid carcinoma, leiomyosarcoma and rhabdomyosarcoma. High index of suspicion is required for accurate diagnosis. The key criteria in diagnostics are: proliferation of spindle cells accompanied by inflammatory infiltration of stroma, the positive immunohistochemistry to ALK and ALK gene rearrangement confirmed by cytogenetics or FISH method. Complete surgical resection is considered the preferred treatment and response to pharmacotherapy has been reported in unresectable tumours.

**Keywords:** Inflammatory myofibroblastic tumour, immunohistochemistry, spindle cells, urinary bladder

## ABSTRACTS

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### [IAP-02] A Rare Case of Triple Negative Apocrine Encapsulated Papillary Carcinoma with Apocrine DCIS

Nurwahyuna Rosli<sup>1\*</sup>, Sukanya Banerjee Nair<sup>1</sup>, Izzati R<sup>2</sup>, Noor Nabila Mohamad<sup>2</sup>

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2. Department of Radiotherapy and Oncology, National Cancer Institute, Putrajaya, Malaysia

**Background:** Encapsulated papillary carcinoma (EPC) is an indolent tumour with favourable prognosis and is treated as pTis using local therapy.

**Objective:** We aim to highlight the rarity of Triple Negative Breast Cancers (TNBC) apocrine EPC with high nuclear grade diagnosis and its influence in staging and treatment.

**Case description:** The patient was a 63 years old lady with a right breast lump. Her mammogram showed right breast complex cyst (BIRADS 4) that was subsequently excised. There was an 11mm intracystic papillary tumour surrounded by a fibrous capsule. The papillary tumour features apocrine cells arranged in hierarchical branching surrounding fibrovascular cores. The apocrine cells exhibit large, moderately pleomorphic round to ovoid vesicular nuclei, red macronucleoli and ample eosinophilic cytoplasm. The surrounding breast tissue showed foci of high-grade ductal carcinoma in situ (DCIS) with apocrine differentiation. Immunohistochemically, p63 highlighted the myoepithelial cells within the ducts containing carcinoma in situ with absence of staining within the intracystic papillae and cyst wall. The tumour cells were negative for ER and PR and HER2. Final diagnosis of apocrine EPC of the breast with high grade nuclear features and apocrine DCIS was rendered. She completed adjuvant radiotherapy and is currently well 8 months post diagnosis.

**Conclusion:** Although EPC has excellent clinical course, the diagnosis of TNBC apocrine EPC with high nuclear grade should be evaluated further for potential systemic adjuvant therapy to improve prognosis.

**Keywords:** TNBC, apocrine EPC, high nuclear grade, apocrine DCIS

## ABSTRACTS

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### [IAP-03] Correlation of PSA levels with premalignant and malignant prostatic lesions in a single centre in Malaysia from 2016 to 2020

Chew Pong Keong<sup>1</sup>, Huzlinda Hussin<sup>2</sup>, Maizatun Atmadini Abdullah<sup>2</sup>, Shafinaz Shabudin<sup>1</sup>

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2. Department of Pathology, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Selangor, Malaysia.

**Background:** Prostate carcinoma (Pca) is among the third most frequent malignancies among males after 60 years old in Malaysia. The blood level of prostate-specific antigen (PSA) is often raised in prostate carcinoma and it is a sensitive test to monitor the disease progression.

**Objective:** To correlate the total PSA (tPSA) levels with premalignant and malignant prostatic lesions and to analyse its cut-off value in differentiating premalignant and malignant prostatic lesions.

**Materials and Methods:** It is a cross-sectional study of 86 patients with prostatic lesions with or without raised tPSA levels for five years starting from 1st January 2016 until 31st December 2020.

**Results:** There were 18 and 68 cases of premalignant and malignant prostatic lesions respectively. The highest age group with prostatic lesions was 61-70 years old (n=40, 46.5%). Most of the prostatic lesions showed tPSA >4.1 ng/ml (n=78) where the majority contributed by the malignant lesions (n=62, 72.1%). However, there was no significant correlation between non-malignant and malignant prostatic lesions with tPSA levels. The best cut-off tPSA level to differentiate between premalignant and malignant prostatic lesions with the sensitivity and specificity of 78% and 59% respectively was detected at 17 ng/ml.

**Conclusion:** PSA level alone was not an ideal tool to differentiate between pre-malignant and malignant cases. The study suggests serum PSA screening should start before 60 years old and close follow-up is needed once tPSA level has reached 4.0ng/ml.

**Keywords:** Adenocarcinoma prostate, Prostate carcinoma, Prostatic intraepithelial neoplasia, Prostate-specific antigen.

## ABSTRACTS

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### [IAP-04] Black Eye: Malignant Melanoma of the Conjunctiva Presenting as a Large Exophytic Periorbital Lesion in a 42-Year-Old Filipino, A Case Report.

Marija Micah Yap Lim, MD<sup>1\*</sup>, Astrid T. San Juan, MD<sup>2</sup>

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**Background:** Conjunctival melanoma is rare and life-threatening. It accounts for 2% of ocular malignancies. In Asians and Filipinos, incidence is very low at 0.15 cases per 1 million. Diagnostic difficulties arise in advanced tumors wherein there is distortion of the ocular anatomy. Microscopically, melanoma presents with a spectrum of histologic features. Immunohistochemistry remains an important tool in the diagnosis.

Case reports on conjunctival melanoma among Filipinos are rare. In this article, we report a case of a 42-year-old Filipino with an advanced case of Conjunctival Melanoma.

**Objective:** To report on the histopathologic and immunohistochemical profile of Conjunctival Melanoma arising in a 42-year-old Filipino.

Case description: A 42-year-old Filipino male presented with a large exophytic pink mass at the right orbit. Exenteration was done and biopsy revealed sheets and nests of malignant round cells arising from the conjunctiva. The neoplastic cells stained positive for S100 and Melan-A supporting a diagnosis of Conjunctival Melanoma.

**Conclusion:** Malignant Melanoma known as “the great mimicker” can exhibit diverse histologic features and its presentation in any organ other than the skin might be a diagnostic challenge. Histopathologic and immunohistochemical profile remain as the cornerstone to its diagnosis.

**Keywords:** Exophytic ocular lesions, Conjunctival Melanoma, Malignant Melanoma, Ocular Tumors

## ABSTRACTS

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### [IAP-05] Squamous cell carcinoma admixed with neuroendocrine carcinoma: A rare collision tumour of cervix.

Nurul Husna Mohd Dani<sup>1</sup>, Nazifah Adznan<sup>2</sup>, Soon Ching Gan<sup>2</sup>

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2. Department of Pathology, Hospital Tengku Ampuan Rahimah, Selangor, Malaysia

**Background:** Carcinoma admixed with neuroendocrine carcinoma is extremely rare, with no exact data. It is an aggressive type of malignancy with an unfavourable outcome.

**Objective:** We are presenting this case in view of its rarity, detected in a pregnant lady. Up to date, there are only eight cases that have been published in English literature.

**Case report:** This is a case report of a 40-year-old Malay woman who had an incidental finding of cervical mass during delivery of her third pregnancy. She later underwent a lower segment caesarean section in view of the cervical mass and a large for gestational age fetus. A vaginal speculum examination showed a 6 cm fungating mass that bled on touch and occupied the entire anterior lip of the cervix. A computed tomography of the thorax, abdomen, and pelvis revealed a heterogenous cervical mass with regional nodal metastasis.

The diagnosis of carcinoma, admixed with neuroendocrine carcinoma, HPV-associated was made based on histomorphology and immunohistochemical findings. The patient was referred to gynaecology and planned for neoadjuvant chemotherapy, followed by radical hysterectomy and bilateral salphingo-oophorectomy, and followed by radiotherapy.

**Conclusion:** Carcinoma admixed with neuroendocrine carcinoma is a subtype of neuroendocrine neoplasm. In view of its aggressive course, multimodality treatment is recommended. Therefore, an accurate diagnosis of carcinoma admixed with neuroendocrine carcinoma is of great importance.

**Keywords:** Collision tumours, neuroendocrine carcinoma.

## ABSTRACTS

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### [IAP-06] Paucicellular variant of anaplastic thyroid carcinoma: A diagnostic challenge

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2. Department of Surgery, Faculty of Medicine, Universiti Kebangsaan Malaysia, 56000 Kuala Lumpur, Malaysia

**Background:** Paucicellular variant is the unusual distinct variant of anaplastic thyroid carcinoma (ATC) that differ from the typical morphology of ATC by their hypocellularity in the background of abundant fibrous or infarcted tissue and only few malignant cells.

**Objective:** In view of the rarity and atypical morphology, paucicellular variant of ATC often pose diagnostic challenges. We hereby reported this case to raise awareness of this rare variant.

**Case description:** A 71-year-old gentleman, presented with hoarseness of voice for three months and a painless left anterior neck swelling for three weeks. Serum T4 was low normal (9.27 pmol/L) while the TSH was high (17.58uIU/ml). The overall impression was thyroid carcinoma, Riedel's thyroiditis or lymphoma. A fine-needle aspiration of the mass was unsatisfactory. A left hemithyroidectomy was performed and showed a hard thyroid nodule that adhered and encasing the trachea and oesophagus. Histologically, the mass exhibited extensive fibrosis and central necrosis with scattered cytokeratin-positive atypical cells was seen. A final diagnosis of anaplastic thyroid carcinoma, paucicellular variant was made. The patient unfortunately succumbed to the disease three months after the diagnosis.

**Conclusion:** The awareness of this rare variant is important to avoid misdiagnosis. In cases of uncertainty, immunohistochemistry studies may be helpful.

**Keywords:** Anaplastic thyroid carcinoma, ATC, Paucicellular variant, Thyroid neoplasm.

## ABSTRACTS

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### [IAP-07] Poroid neoplasms: a clinicopathological report of 6 cases

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**Background:** Poroid neoplasms are a heterogeneous group of tumors with sweat gland differentiation. Their histological classification still remains controversial as well as their clinical features.

**Objective:** to report clinicopathological features of poroid neoplasms.

**Materials and Methods:** it is a retrospective study including all cases of poroid neoplasms registered at our Pathology laboratory of Niamey National Hospital (2020 – 2022).

**Results:** We registered 6 cases of benign poroid neoplasms: 3 apocrine poromas, 2 eccrine poromas and 1 dermal duct tumor. Four cases had preoperative diagnosis of malignancy. The mean age was 30.66 years (range of 12 – 62) without gender predilection. Only 2 cases had classical palmoplantar locations. The tumors mean size was 3.1 cm (range of 0.4 – 6). All cases were well-circumscribed solid (1 case) or solid-cystic whitish nodules (5 cases). Epidermal connection was present in 5/6 cases, clear cells in 4/6 cases, apocrine ducts in 4/6 and keratin horns/squamoid morules in 2/6 cases.

**Conclusion:** unlike what is classically reported, our study shows that apocrine differentiation and non-palmoplantar locations are not unusual in poroid neoplasms.

**Keywords:** apocrine, poroid neoplasms, poromas, sweat gland.

## ABSTRACTS

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[IAP-08] Expression of BCL 2 by immunohistochemistry in Primary Diffuse Large B Cell Lymphoma and its correlation with the prognostic outcomes in a tertiary hospital.

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**Background:** BCL2 is a promising prognostic biomarker as overexpression often associated with inferior outcomes in DLBCL, its significance however is conflicting.

**Objective:** Evaluating BCL2 expression in primary DLBCL and correlate with patient's survival outcomes.

**Materials and Methods:** Retrospective study was conducted on 134 DLBCL cases by BCL2 immunohistochemistry. BCL2 was considered positive if it is expressed in 50% or more of tumour cells, based on the scoring algorithm on sensitivity of lymphoma cell lines to BCL2 inhibition.

**Results:** BCL2 was expressed in 94 out of 134 patients, mainly the activated B-cell subtypes (65.7%), and significantly associated with extranodal involvement ( $p=0.004$ ). BCL2-positive DLBCL shows inferior overall survival (OS) (HR, 1.141; 95% CI, 0.750-1.736) and progression free survival (PFS) (HR, 1.055; 95% CI, 0.675-1.649). Non-Malay race, presence of B-symptoms, high ECOG score and IPI-high are independent negative predictors for OS. Meanwhile, male gender, presence of B-symptoms, and high ECOG score are independent negative predictors for PFS.

**Conclusion:** We demonstrated BCL2 expression resulted in inferior survival outcomes, and significantly associated with extranodal involvement. BCL2 inhibitors may be considered as therapy in these subsets of patients.

**Keywords:** BCL2, BCL2 inhibitors, Diffuse Large B Cell lymphoma, DLBCL, survival outcomes

## ABSTRACTS

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### [IAP-09] Primary Papillary Thyroid Carcinoma Arising From Thyroglossal Duct Cyst Diagnosed By Fine Needle Biopsy: A Common Thyroid Malignancy In Uncommon Case.

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**Background:** Thyroglossal duct cyst (TDC) is the most common congenital anomaly of thyroid gland, 1% progress to malignancy. This case presents a primary papillary thyroid carcinoma (PTC) arising from thyroglossal duct cyst diagnosed by palpation-guided fine needle aspiration biopsy (FNAB) with uninvolved thyroid.

**Objective:** The aim is to be able to diagnose pre-operatively PTC in TDC for optimal patient management.

**Case description:** A 49-year-old female with a two-year history of an anterior midline neck mass at the level of the hyoid measuring 5x4cm. Two needle passes were done by palpation guidance, one obtained 5ml yellow fluid and the second on the 1.0cm solid residual mass. The mass revealed malignant follicular cells in papillary fragments and microfollicles with nuclear features of PTC. Patient underwent Sistrunk procedure with total thyroidectomy. Grossly, the mass revealed tan brown lobulated 4.5cm cyst. A 1.0cm cream colored ill-defined mass was seen in between two cysts which microscopically revealed papillae with fibrovascular core lined by neoplastic follicular cells with ground glass nuclei. A diagnosis of Papillary Thyroid Carcinoma arising from Thyroglossal Duct Cyst was made.

**Conclusion:** Primary PTC arising from thyroglossal duct cyst is rare, pre-operative FNAB diagnosis is even rarer. This case emphasizes the importance of recognizing thyroid malignancy in thyroglossal duct cyst before surgery to allow surgeons to plan for a more appropriate surgical management.

**Keywords:** FNAB; Papillary Thyroid Carcinoma; Thyroglossal Duct Cyst

## ABSTRACTS

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### [IAP-10] Diffuse large B-cell lymphoma of a 4-year-old boy: A case report.

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**Background:** Only 2% of all malignant neoplasms occur in infancy and childhood. Although non-Hodgkin's lymphoma (NHL) is the most common malignancy of gastrointestinal (GI) tract in children, it is rare and represents less than 5% of all pediatric neoplasms.

**Objective:** To demonstrate clinical presentation, anatomic distribution, and histologic appearance of this rare pediatric neoplasm.

**Case description:** A 4-year-old healthy boy presented with lower abdominal pain for 1 day. Physical examination revealed marked tenderness at the lower umbilicus. Complete blood count showed leukocytosis with PMNs predominate. Ultrasonography was suspected of appendicitis. Exploratory laparotomy revealed intussusception with a thickening leading point. Neither mass nor lymphadenopathy identified. On gross examination, the ileum showed a firm tan thickening lesion, measuring 2.5 cm in length. The lesion involved all layers of the bowel. Microscopic showed diffuse infiltration of the whole thickness of the bowel wall by medium to large-sized lymphoma that showed positive for CD20, CD10, and Ki-67 (80-90%). The other immunostaining showed negative; c-myc, BCL2, BCL6, MUM1, cyclin D1, Cd3, CD15, CD23, CD30, CD38, CD44, MPO, and TdT. The final diagnosis of diffuse large B-cell lymphoma (DLBCL) with germinal center B-cell phenotypes was made by a hematopathologist during the consultation.

**Conclusion:** Compared to the literature review, this case is concordant to other pediatric GI lymphoma which showed male predominant, ileocecal involvement, DLBCL with germinal center phenotypes, and high proliferation index.

**Keywords:** Pediatric gastrointestinal lymphoma, diffuse large B-cell lymphoma in children.

## ABSTRACTS

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[IAP-11] High-grade inflammation in primary colorectal cancer is associated with a liver metastases desmoplastic growth pattern.

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**Background:** Colorectal cancer (CRC) ranks the third most common type of cancer in the world, and the second in mortality. More than 50% of patients diagnosed with CRC will develop liver metastases (CRCLM), which is the main cause of death.

**Objective:** Correlate the clinical and pathological characteristics of the primary CRC and CRCLM, with emphasis in predicting the histological growth pattern of the CRCLM

**Materials and Methods:** Retrospective study (January 2013-December 2017), of patients with CRC and CRCLM with clinical and pathological review. Statistical analysis with SPSS (version 27) with a significance level of 5%.

**Results:** A association was found between tumor size and metastasis growth pattern ( $p=0.002$ ), with larger tumors giving rise to non-desmoplastic growth pattern CRCLM. Lymphovascular invasion (ILV) was associated with metachronous CRCLM ( $p=0.043$ ) and a high number of CRCLM ( $p=0.049$ ). In the absence of ILV, the time required for CRCLM to appear was significantly longer ( $p=0.011$ ). There was a statistically significant association between CRC high-grade inflammation with a desmoplastic metastases growth pattern of the CRCLM ( $p=0.017$ ).

**Conclusion:** The possibility of predicting the CRCLM histological growth pattern resorting to primary CRC characteristics would be useful for properly selection patients for surgery and adapting biological therapies.

**Keywords:** colorectal cancer, metastasis, liver, histological growth pattern

## ABSTRACTS

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### [IAP-12] A Silent Invasive Neighbor: A Rare Case Of A Subclinical Parathyroid Carcinoma

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**Background:** Parathyroid carcinoma is a rare malignant endocrine neoplasm, accounting for 1% of primary hyperparathyroidism cases and 0.005% of all parathyroid tumors. Cases without clinical symptoms of hyperparathyroidism such as hypercalcemia or excessive bone resorption are exceedingly rare and are difficult to diagnose preoperatively, hence proper diagnosis is achieved only through a thorough histopathologic examination.

**Objective:** To document a case of parathyroid carcinoma in an adult female with its histopathologic presentation.

**Case:** A 55-year-old female with a two-month history of anterior neck mass was seen at our institution. The mass was firm and cystic, moves with deglutition, and was not associated with any other symptom. Ultrasonographic findings show a mixed solid and cystic mass in the right thyroid lobe, with fine-needle aspirate biopsy showing colloid nodule with cystic degeneration. Subtotal thyroidectomy was performed, revealing an irregular, enlarged right thyroid lobe. Histopathologic diagnosis of parathyroid carcinoma was made through histopathological examination and immunohistochemical evaluation.

**Conclusion:** Diagnosis of parathyroid carcinoma without symptoms proves to be a diagnostic challenge even with the additional ancillary investigations. A careful histopathological examination with recognition of malignant features is important in the identification of these tumors.

**Keywords:** immunohistochemistry, malignant endocrine neoplasm, parathyroid, parathyroid carcinoma

## ABSTRACTS

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### [Abstract-13] A Rare Case of Tuberculous Prostatitis: Mimicking A Cancer

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**Background:** Tuberculous (TB) prostatitis, a rare case, is one of extra-pulmonary TB in the genitourinary. Indonesia is still a TB endemic country, but no specific report on the prevalence of TB prostatitis. Most patients are asymptomatic, and others show nonspecific symptoms, thus making the clinical suspicion difficult. Consequently, a high tendency to misdiagnose the disease is due to its inability to differentiate from prostate cancer or benign prostate hyperplasia.

**Objective:** To report a case of TB prostatitis that mimics cancer

Case description: Male, 70 years old, presented with urinary retention last week. Dysuria, hesitancy, urinary frequency, and nocturia were felt in three months and got worse. Digital rectal examination found palpably enlarged prostate gland with elastic consistency and hardness in some parts with enlarged prostate from ultrasonographic. There was an elevated PSA level (15.367 ng/mL), suggestive of prostate cancer. A gross examination of prostate specimens looked yellowish white area, measured 3x3x2 cm and 0.2x0,2x0.2 cm, respectively, from TUR-P and biopsy procedures. The histopathological report showed granulomatous features with caseous necrosis and multinucleated giant cells (Langhan's type) diagnosed with TB prostatitis.

**Conclusion:** Clinical information can lead to cancer of the prostate. It must be confirmed by histopathology to diagnose TB prostatitis.

**Keywords:** mimic cancer, prostatitis, tuberculous

## ABSTRACTS

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### [IAP-14] Elaborated Pathologic Spectrum Of Extraskelatal Osteosarcoma, A Detailed Clinicopathologic Study Of 37 Cases

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**Background:** Extraskelatal Osteosarcoma (EOS) is a malignant soft tissue sarcoma that accounts for <1% of soft tissue sarcomas and most commonly arises as deep-seated soft tissue mass of extremities in old adults. It is characterized by osteoid/bone matrix production by atypical neoplastic cells. Prognosis is grim owing to old age group and poor response to chemotherapy.

**Objective:** To describe the diverse clinicopathologic spectrum of EOS.

**Materials and Methods:** This study was conducted at AKUH from year 2009 to 2020. A total of 37 cases were included. Histologic type and pathologic features were assessed.

**Results:** There were 23 males and 14 females. Age range was 14 to 85 years (mean 51; median 54). Laterality was left in 19, right in 12, midline in 3 and not known in 3 cases. Thigh was the most common location (18) followed by arm (5). Tumor was subcutaneous in 31, deep in 4 and both in 2 cases; infiltrative in 21 and circumscribed in 16. Histologic type was Conventional in 27, Chondroblastic in 6, Telangiectatic in 2, Giant-cell rich in 1 and Osteoblastic in 1 case. Presence of osteoid was seen in all cases. The percentage range for osteoid was 10-30% in 18 cases, 31-50% in 9, 51-70% in 4 and 71-90% in 6 cases. The osteoid showed lace-like and trabecular pattern with bone formation in 26, lace-like and trabecular pattern without bone formation in 7 and lace-like osteoid in 4 cases. Tumor had combination of spindle and pleomorphic cells in 13, spindle only in 6, round and spindle in 5, oval and pleomorphic in 4, round only in 4, round and pleomorphic in 3 and spindle and oval in 2 cases. Reverse zonation was present in 27 cases. 2 cases had zonation. Osteoclast-type giant cells were present in 24, necrosis in 23, atypical large cells around vessels and telangiectasia in 22 and cartilage in 19 cases.

**Conclusion:** EOS has striking variation in histologic features like Skeletal osteosarcoma.

**Keywords:** Extraskelatal, Pathologic, Osteosarcoma.

## ABSTRACTS

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### [IAP-15] Accuracy of Anal Cytology Compare to Histology Results in Men Who Have Sex with Men: A Five-Year Experience from a Tertiary Care Hospital.

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**Background:** Anal squamous cell carcinoma is associated with human papillomavirus infection. For high-risk populations, anal cytology is a recommended screening method. Only a few studies have been conducted to determine the histological outcome of anal cytology in Thai men who have sex with men (MSM) groups.

**Objective:** To determine the prevalence of abnormal cytology and histology outcomes in the MSM group at Thammasat University Hospital.

Materials and Methods:

Anal cytology performed in MSM between June 2015 to May 2020 were collected and classified by the Bethesda 2014 system. Age, clinical presentation, HIV status, and histology were characterized.

**Results:** Of 204 anal cytology tests from 118 MSM individuals (mean age 29.2) were identified. The clinical presentation of 91 (77.1%) patients were asymptomatic, 23 (19.5%) condyloma, and 4 (3.4%) anal pain. The HIV-positive cases were 90 (76.3%). Eighty-one (39.7%) were abnormal cytology consisting of 49 (24%) Atypical squamous cells of undetermined significance (ASCUS), 2(1%) Atypical squamous cells-cannot exclude HSIL (ASC-H), 2 (1%) Atypical glands, 27 (13.2%) Low-grade squamous intraepithelial lesion (LSIL), and 1 (0.5%) High-grade squamous intraepithelial lesion (HSIL). Fifty patients (24.5%) had histology follow-ups. 29 (58%) AIN groups were established from ASC-US, ASC-H, and LSIL groups. One false-negative and one false-positive in HSIL. Anal cytology has 85 % and 37.5% sensitivity and specificity for detecting AIN lesions.

**Conclusion:** MSM patients with any degree of aberrant anal cytology are at risk of developing AIN lesions on histology. High-risk populations can benefit from using anal cytology.

**Keywords:** Anal cytology, MSM, Anal intraepithelial lesion

## ABSTRACTS

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### [IAP-16] Glow in the Dark: A Case of the First Recorded Malignant Glomangiopericytoma of the Head and Neck in the Philippines.

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**Background:** Sinonasal glomangiopericytoma (SN-GPC) or often called as Sinonasal hemangiopericytoma (SN-HPC) is a soft tissue neoplasm of borderline malignant potential which most commonly arises in the paranasal cavity. It is a sinonasal tumor demonstrating a perivascular myoid phenotype. GPC is a rare neoplasm (< 0.5% of all sinonasal neoplasms), observed slightly more frequently in females than males (1.2: 1).

**Objective:** Is to document, and add to the current data of Malignant SN-GPC in the head and neck; and evaluate the morphological and immunohistochemical features of SN-GPC.

**Case:** This is a case of P.N. a 31-year-old female presenting with a slowly enlarging 10.0 x 10.0 cm mass on the right buccal area with no other associated symptoms. Past medical history reveals a recurrent mass over the same site (3 times over a 10-year period).

**Results:** Specimen received is an excision of mass with mandibular swing of an oropharyngeal mass appearing as a cream-white to tan-brown, irregular, doughy, well-encapsulated tissue measuring 6.5 x 4.0 x 2.0 cm. Cut section of the mass shows a tan-brown, variegated surface. Final histopathologic diagnosis is Malignant glomangiopericytoma (sinonasal-type), oropharynx, right.

**Conclusion:** The diagnosis of Glomangiopericytoma is difficult to diagnose using histomorphologic appearance alone. Immunohistochemistry panel is required to confirm the diagnosis. SN-GPC/HPC has an excellent prognosis after complete excision but has a tendency to recur if inadequately resected. Correct histopathologic diagnosis and close follow up is essential for clinical management and outcome. As of this writing, the incidence of malignant transformation of SN-GPC in the Philippines is undocumented.

**Keywords:** Glomangiopericytoma, Sinonasal-type Hemangiopericytoma, Oropharynx.

## ABSTRACTS

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### [IAP-17] Primary Extranodal Lymphoma: A 5-Year Retrospective Study

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**Background:** Extra nodal lymphoma (ENL) presents with the main bulk of disease at an extranodal site, usually necessitating the direction of treatment primarily to that site. Incidence of primary extranodal lymphoma (pENL) has seen a rapid rise in recent years and is a frequent challenge to diagnose, classify and provide appropriate treatment.

**Objective:** This study is aimed to ascertain the anatomic distribution, clinical presentations, histological subtypes and sites involved in pENL.

**Materials and Methods:** This was a retrospective study of 109 patients with pENL (69 male, 40 females, M: F = 1.7:1) over a 5-year period (October 2012 to September 2017) in the Department of Pathology, KMC, Manipal and reclassified according to 2016 WHO classification.

**Results:** pENL constituted 109/481 cases (22.6%) of all NHL diagnosed during this period. Peak incidence was in 7th decade. The gastrointestinal tract (39%) was the major site involved, followed by head and neck (26%). Diffuse large B cell lymphoma was the common histomorphological variant of pENL followed by Follicular lymphoma. Majority of the patients were immunocompetent (89%) and presented with stage IV disease (31.1%) at the time of diagnosis

**Conclusion:** This study shows the distribution of common and rarer pENL in a tertiary care centre. A diagnosis of pENL requires exclusion of secondary involvement of extranodal sites by a primary nodal disease.

**Keywords:** Extra nodal lymphoma, GIT, WHO 2016

## ABSTRACTS

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### [IAP-18] Mitochondrial damage-induced abnormal glucose metabolism with aging in the hippocampus of APP/PS1 mice

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**Background:** Accumulation of  $\beta$ -amyloid (A $\beta$ ) in neurons of patients with Alzheimer's disease (AD) inhibits the activity of key enzymes in mitochondrial metabolic pathways, triggering mitochondrial dysfunction. Mitophagy is a process whereby dysfunctional or damaged mitochondria are removed in the cell. Aberrant mitochondrial metabolism may hinder mitophagy, promote autophagosome accumulation, and lead to neuronal death.

**Objective:** The aim of this experiment is to explore the mechanism of neuronal mitochondria damage in the hippocampus of different age APP/PS1 double transgenic AD mice, and to explore the related metabolites and metabolic pathways for further understanding the pathogenesis.

**Materials and Methods:** 24 APP/PS1 mice were divided into 3, 6, 9, and 12-month-old groups and 6-month-old wild-type mice were as controls. The Morris water maze test was used to evaluate learning and memory. Levels of A $\beta$  were detected by immunohistochemistry. Electron microscopy was used to observe mitochondrial damage and autophagosome accumulation. Western blot was for measuring LC3, P62, PINK1, Parkin, Miro1, and Tom 20 protein expression levels. Gas chromatography coupled to mass spectrometry was used to screen differentially abundant metabolites.

**Results:** The results showed that with the increase of age in APP/PS1 mice, the cognitive impairment, hippocampal neuron mitochondrial damage and autophagosome accumulation were all increased. Enhanced mitophagy and impaired mitochondrial clearance leading to metabolic abnormalities were observed with aging in APP/PS1 mouse hippocampus. Specially, abnormal accumulation of succinic acid and citric acid in the Krebs cycle was observed.

**Conclusion:** This study investigated the abnormal glucose metabolism associated with age-related damage to mitochondria in the hippocampus of APP/PS1 mouse. These findings provide new insights into the pathogenesis of AD.

**Keywords:** Alzheimer's disease (AD), hippocampus, mitochondrial autophagy, Glucose metabolism ; age

## ABSTRACTS

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### [IAP-19] A Case Report Of Peripheral T-Cell Lymphoma Presenting As An Aggressive Neck Mass

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**Background:** Peripheral T-Cell Lymphomas (PTCLs) are rare, diverse groups of neoplastic disorders. PTCL- Not Otherwise Specified (NOS), its most common type, accounts for approximately 22% of PTCLs in Asia with incidence at approximately 0.4 cases per 100, 000 population. Comparing to B-cell lymphomas, progress in deciphering the nature of T-cell lymphomas is lagging because of its rarity and heterogeneity.

**Objective:** To present a case of PTCL-NOS based on histological and immunohistochemical

**results:** Case description: This is a case of a 28-year-old, male, with a rapidly enlarging and multiplying neck masses. At consult, there is a 6.0 x 5.0 cm fixed, firm, tender mass with induration and serosanguinous discharge, located at the Level V of the left neck. Wound debridement is done and the specimen is submitted for examination. Microscopic examination shows sheets of diffuse, basophilic cells separated by thin, fibrous septa. The cells have scanty cytoplasm and pleomorphic, hyperchromatic nuclei containing vesicular chromatin and prominent, multiple nucleoli. Diffuse dermal infiltration is also present. Immunohistochemistry studies are performed showing: CK (-), LCA (+), CD3 (+), CD20 (-), CD4 (+), CD8 (-), CD30 (-), and CD15 (-).

**Conclusion:** The results are consistent with PTCL-NOS as this subtype can only be diagnosed if the tumor does not meet the criteria for other specially defined subtypes of PTCL. Thorough subtyping of these tumors- from histomorphologic to immunohistochemical, to additional molecular analysis- can pave the way to the precise **identification of molecular mutations** or alterations, thus, eventually influencing treatment modalities and improving the prognosis.

**Keywords:** Neck mass, Peripheral T-cell lymphoma- not otherwise specified, T-cell lymphoma

## ABSTRACTS

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### [IAP-20] A shot in the dark - the unpredictable way of a cutaneous melanoma through the epiretinal membrane

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**Background:** Traditionally, the eye is an unusual site of metastasis for cutaneous melanoma. When it occurs, usually, it involves the choroid but rarely the vitreous. The last decade was preponderant to become immune checkpoint inhibitors available and widespread use as a first-line to treat metastatic melanoma.

**Objective:** Authors' purpose is to report a case of metastatic cutaneous melanoma to the vitreous diagnosed by cytology after performing a pars plana vitrectomy.

**Case description:** We describe a case of a 75-year-old woman presenting with a history of cutaneous melanoma metastatic to axillary lymph node and in remission after treatment with immunotherapy. Five years later, a retinal lesion was detected, leading to a pars plana and peeling of the epiretinal membrane. Cytology confirmed the presence of melanoma by large epithelioid cells with round-to-oval nuclei and abundant, sometimes microvacuolized cytoplasm. Immunohistochemistry sustained the diagnosis by the positivity of HMB45 and MelanA. Additionally, the molecular study revealed non-BRAF mutation.

**Conclusion:** Metastatic cutaneous melanoma to the vitreous cavity is exceedingly rare and, therefore, poses a challenge from clinical and cytological points of view.

**Keywords:** Epiretinal membrane, Melanoma, Metastasis

## ABSTRACTS

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### [IAP-21] Prognosis prediction based on a radial resection margin of 75 esophactomies due to carcinoma

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**Background:** Esophageal carcinoma remains one with the poorest prognoses. Radial resection margins are still controversial as an influencing factor on prognosis.

**Objective:** We aim to understand the impact of radial resection margin (RM) on global survival and disease-free rates. **Materials and Methods:** We reviewed 75 specimens of curative esophagectomies due to carcinoma from 2008-2020, focusing on RM. Patients were divided into three groups: >1mm; >0 to ≤1mm, and invaded margins. Based on this classification, the prognosis (global survival rate and disease-free rate) were analyzed. Follow-up was based on imagological and clinical reports findings.

**Results:** Of the 75 patients, 84% were male and 16% female, with a median age of 63 years. Most were squamous cell carcinoma (80%), and the majority (60%) of patients submitted to neoadjuvant therapy. Patients with RM >1mm showed a better global survival rate than RM<1mm and fewer relapses episodes. Mortality and relapses occurred mainly in the first months after surgery (any death declared 70 months after surgery associated with the disease). Neoadjuvant therapy benefited the group with invaded margin. Tumor size and tumoral regression grade seemed to be the leading primary condition affecting the RM.

**Conclusion:** The global survival rate is superior when the RM is >1mm. The main factors associated are staging and tumoral regression grade, which are directly related to the invasion of the wall. The beneficial results in those with invaded margins allow us to emphasize the pertinence neoadjuvant. Despite the interest and clinical impact, a larger sample need to define the RM cut-off to adopt.

**Keywords:** esophactomies, prognosis, radial margin

## ABSTRACTS

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### [IAP-22] Deep Neural Network Contributes to Differentiate MGMT Promoter Status in glioma by Whole Slide Images

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3. Chongqing University Cancer Hospital & Chongqing Cancer Institute & Chongqing Cancer Hospital, Chongqing, China

**Background:** Glioma is one of the primary central nervous system tumors with short survival. The methylation status of the MGMT promoter is significantly associated with the patient's response to the first-line drug temozolomide.

**Objective:** However, there is still no efficient method to detect the MGMT promoter status. Deep learning help to streamline the workflow and improve diagnostic efficiency. Therefore, we trained and verified a deep learning model as a pathologist-assisted diagnostic tool. The purpose of this study was to establish the model to forecast whether MGMT promoter methylation occurred.

**Materials and Methods:** Whole slide images from glioma specimens in Chongqing University Cancer Hospital (n=320) were applied to train and the test set of 80 sections was used to verify. 240 images with methylation and 160 images without methylation were stained with hematoxylin-eosin. Convolutional neural networks were used to establish the image analysis model, and the random forest was used to feature extraction. We used this model for weakly supervised learning and then generate a final classification based on each slide.

**Results:** This model had a beautiful performance in differentiating MGMT from promoter-methylated pathological slides in the test set and the highest AUC score was 0.80.

**Conclusion:** The experimental results show that the model can simplify the detection of MGMT promoter status and accelerate the clinical diagnosis process. So far, this is the first attempt to distinguish MGMT promoter methylation state in glioma through pathological images with the aid of deep learning.

**Keywords:** Glioma, MGMT promoter methylation, Deep learning, WSI, CNN

## ABSTRACTS

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### [IAP-23] Pediatric Malignant Mixed Germ Cell Tumour in Mediastinum and Right Atrium at Hasan Sadikin General Hospital: A Case Report.

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3. Department of Cardiothoracic and Vascular Surgery, Faculty of Medicine, Universitas Padjadjaran, Bandung, Indonesia

**Background:** Pediatric malignant mixed germ cell tumours (MMGCT) is extremely rare. Primary pediatric GCT represent about 3% in children aged 0-18 and 4% GCTs are located in mediastinum.

**Objective:** To report a rare case of a 16-year-old-boy with MMGCT at Hasan Sadikin General Hospital.

**Case description:** A 16-year-old-boy admitted to Hasan Sadikin General Hospital emergency department with progressive dyspnea since two weeks ago. He also felt chest pain, cough, and dizziness. Serum alpha-fetoprotein (AFP) was elevated 1483.5ng/mL and human chorionic gonadotrophin (HCG) was normal. CT scan thorax found solid mass with firm border and irregular edge about 7.92x9.86x13.82cm which attached to brachiocephalic trunk, ascending aorta, right pulmonary artery, constricted superior vena cava, extended and infiltrated right atrium (RA). Echocardiography revealed mass at RA about 4.8x5.2cm. Exsicion tumour on mediastinum and RA was performed and the histopathology result was malignant mixed germ cell tumours consisted of seminoma, yolk sac tumour and teratoma. Post operation echocardiography revealed normal intracardiac, no cardiac mass at RA and RV and will be re-evaluated in 6 months.

**Conclusion:** Pediatric MMGCT is a rare case especially which infiltrate into the RA. The clinicopathological features such as tumour location, age, histopathological type and serum tumour marker are necessary to established diagnosis and further therapy.

**Keywords:** Pediatric, malignant mixed germ cell tumour, mediastinum, right atrium.

## ABSTRACTS

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### [IAP-24] Classification of endometrial carcinoma using the new guidelines of ESGO/ESTRO/ESP a tertiary center experience

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**Background:** In 2020 new guidelines in endometrial cancer by ESGO/ESTRO and ESP were published, introducing molecular classification and thus changing the prognosis and adjuvant therapy.

**Objective:** To describe the impact in the prognosis and therapy of patients with the implementation of the new classification.

**Material and Methods:** We carried out a prospective study of patients with endometrial cancer which underwent surgery and molecular classification between September 2020 and September 2021.

**Results:** The mean age at diagnosis was 66.6 (55.7-77.5), the most common histological types were endometrioid (81%) and serous (9.5%). Regarding the grade, 28 were classified as low grade (66.7%) and the rest as hig. In 34 cases lymphovascular invasion was focal or negative and in the remaining 8 cases (19%) it was extensive.FIGO staging was IA in 52.4%, IB in 14.3%, II in 7.1%, III in 19% and IV in 7.1%.47.6% were classified with a nonspecific molecular profile, 28.6% microsatellite instability, 21.4%, p53-mutated and 2.4% POLE mutated. With molecular classification, only one case would have a change from high risk to intermediate risk.

**Conclusion:** The new guidelines led to a change in the classification of the prognostic groups in one case with the need of adjuvant therapy.

**Keywords:** Endometrial Carcinoma, Molecular Classification, POLE, guidelines

## ABSTRACTS

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### [IAP-25] A Case Report: Ciliary Body Adenocarcinoma Presented With Painful Blind Eye

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**Background:** Adenocarcinoma of the ciliary body is a rare malignant tumour arising from either pigmented or non-pigmented ciliary epithelium.

**Objective:** We report a rare case of ciliary body adenocarcinoma with diffuse positivity for pancytokeratin and PAX 8 immunohistochemistry.

**Case description:** A 37-year-old gentleman who presented with painful blind eye. Computed tomography (CT) imaging revealed a lobulated heterogeneous enhancing mass seen in the left orbit with infiltration of the inferior oblique muscle, left superior rectus muscle and optic nerve. The patient underwent left eye exenteration. The gross features revealed an extensive intraocular homogenous whitish solid mass with extra scleral and extra ocular extension. Microscopically showed non-pigmented malignant glands with papillary architecture. Extensive immunohistochemical studies were performed to exclude other possible primaries. The malignant cells are diffusely positive for CKAE1/AE3 and PAX8, while negative for CK7, CK20, S100, HMB-45, Melan A, TTF-1, GATA 3 and thyroglobulin. A few studies have reported expression of PAX8 in normal intraocular structures. However, PAX8 was also known to detect primary and metastatic thyroid, renal and mullerian tumors. Therefore, further reassessment on physical examination and imaging studies were performed to exclude metastasis and were negative. Thus, diagnosis of primary ciliary body adenocarcinoma was established.

**Conclusion:** Clinical, radiological and histopathological examination along with immunohistochemical studies are crucial for accurate diagnosis.

**Keywords:** ciliary body adenocarcinoma, phthisis eye, painful eye.

## ABSTRACTS

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[IAP-26] Identification of *Mycobacterium tuberculosis* in paraffin embedded specimen of patients with granulomatous inflammation by Kinyoun stain.

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**Background:** Tuberculosis is an infectious disease caused by *Mycobacterium tuberculosis*; producing granulomatous inflammation. Diagnosis is achieved via microbiological or histopathological examination (HPE). The latter relies on detection of acid-fast bacilli (AFB) using special stains however, its sensitivity is generally low.

**Objectives:** The study was performed to: i) determine the sensitivity of Kinyoun stain for AFB detection in paraffin embedded tissue and ii) compare the sensitivity of Kinyoun stain for AFB detection in tissue specimens from various anatomic locations.

**Materials and Methods:** This is a retrospective study. Ninety-one cases of pulmonary and extrapulmonary tissue showing granulomatous inflammation on HPE were included. Kinyoun stain was performed for AFB detection. Using *Mycobacterium Tuberculosis* culture as the gold standard, the sensitivity of Kinyoun stain for detection of AFB was calculated.

**Results:** Of 91 cases, AFB was detected on Kinyoun stain in 19 cases, compared to 34 cases with positive *Mycobacterium Tuberculosis* culture. Only 7 cases demonstrated positivity with both culture and Kinyoun stain. The Kinyoun stain sensitivity is 21%. The sensitivity of Kinyoun stain is highest soft tissue specimens (43%), followed by lymph nodes (29%) and pleura and peritoneum (14%). The specificity of Kinyoun stain is 81%.

**Conclusion:** Our finding shows that the sensitivity for AFB detection using Kinyoun stain in paraffin embedded tissues is low. Our result also suggests that the sensitivity may differ in different anatomic locations. This should be considered when interpreting special stains for AFB and to utilise additional diagnostic modalities where applicable.

**Keywords:** Acid fast bacilli, Granulomatous, Kinyoun stain

## ABSTRACTS

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### [IAP-27] Comprehensive Clinicopathologic Analysis Of Biphenotypic Sinonasal Sarcoma, A Case Series Of 05 Cases.

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**Background:** Biphenotypic Sinonasal Sarcoma (BSS) is a low grade spindle cell sarcoma that arises from the sinonasal tract and shows neural and myogenic differentiation. It predominantly affects females in the fifth decade. BSS is a slowly progressive tumor with frequent invasion of local structures and characterized by PAX3-MAML3 gene fusion. Local recurrence rate is 32% with rare distant metastasis.

**Objective:** To elaborate the clinicopathologic features of BSS.

**Materials and Methods:** A total of 5 cases were included from year 2021- 2022. Histologic and immunohistochemical features were assessed and follow up was taken.

**Results:** There were 3 females and 2 males. Age range was 30 to 56 years (Mean age 45.6 yrs). Site of tumor was nasal cavity in all cases. All tumors were unencapsulated and infiltrative. Histology showed long fascicular and herring-bone arrangement of spindle cells in all cases whereas 2 showed additional storiform pattern. Collagenous background was present in 3 cases, 1 case showed delicate, thin and 1 showed thick keloidal collagen. Bone invasion was present in 3 cases. Tumor cells had mild nuclear pleomorphism with 1 mitosis/10hpf in all cases. Necrosis and rhabdomyoblastic differentiation were absent. 03 cases exhibited invagination of surface epithelium with cyst formation, 2 of them showed squamous and oncocytic metaplasia. Lymphocyte sprinkling was seen in all cases. Staghorn vasculature was present in 3 cases. Another striking feature was presence of angiomatous polyp-like areas in native nasal tissue. Hyalinization was also noticed in 2 cases. Immunostains ASMA and S100 were positive in all cases. SOX 10 and beta catenin were positive in 1 case and CKAE1/AE3, CD34, STAT6 and Desmin were negative. All 05 patients are healthy and alive with no recurrence or metastasis on a follow up of 6 months to 1 year. 04 patients received neoadjuvant chemotherapy and 01 received chemotherapy.

**Conclusion:** BSS is a low grade, infiltrative sarcoma with classic histology and immunoprofile and should be kept in differential diagnoses of spindle tumors of nasal cavity.

**Keywords:** Biphenotypic Sinonasal Sarcoma, histology, infiltrative

## ABSTRACTS

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### [IAP-28] A Sneak Peak Into The Biological Behaviour Of Sinonasal Papillary Lesions: A Case Series

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3. Department of Pathology, Associate Professor, Kasturba Medical College, Manipal Academy of Higher Education, Manipal, Karnataka, India

**Background:** Sinonasal papillomas are benign lesions of the nasal cavity and paranasal sinuses with high rates of recurrence and a 10% potential for malignant transformation to squamous cell carcinoma.

**Objective:** To study the sinonasal papillary lesions: salient clinicopathological features, subtypes and biological behaviour.

**Materials and methods:** A retrospective study of 8 patients diagnosed with sinonasal papillary lesions from January 2021 to December 2021, conducted in the Department of Pathology, KMC, Manipal.

**Results:** Mean age of presentation was 60.5 years, with male: female ratio of 3:1. Patients presented with unilateral nasal obstruction and discharge. Most common sites were nasal cavity and maxillary sinus. Frozen section analyses were done for 3 cases, 1 was discordant with the final diagnosis and the remaining 2 were concordant.

Of the 8 cases studied, 3 were inverted sinonasal papilloma, 2 exophytic sinonasal papilloma, 1 oncocytic sinonasal papilloma, 1 showed malignant transformation (carcinoma ex-sinonasal inverted papilloma with squamous cell carcinoma in situ), and remaining 1 showed sinonasal adenocarcinoma with metastasis to neck lymph nodes. One of the inverted papilloma cases recurred multiple times. The growth patterns seen were endophytic (7/8) and exophytic (3/8). All cases showed infiltrating mononuclear cells and mixed hyperplastic lining epithelium of which 4/8 were respiratory, 3/8 were transitional, 2/8 were squamous, and 2/8 were oncocytic type. All the 3 inverted papilloma cases showed transmigrating neutrophils and neutrophilic micro-abscesses.

**Conclusion:** Sinonasal papillary lesions are relatively uncommon tumors. Surgical pathologists need to be aware of their broad morphologic spectrum because the emerging molecular understanding of these neoplasms has important clinical implications.

**Keywords:** Sinonasal, Papilloma

## ABSTRACTS

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### [IAP-29] Cauda Equina Neuroendocrine Tumour

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**Background:** Primary neuroendocrine tumors (NET) (WHO 2020, 5th edition) of the spinal cord are rare, slowly growing, benign intradural, extra medullary tumours, usually attached to the filum terminale or caudal nerve root. They arise from the specialized neural crest cells in this region. They were earlier called paragangliomas.

**Objective:** To study the salient clinicopathological and immunohistochemical features of cauda equina paraganglioma.

**Case description:** A 49-year-old male presented with lower back pain radiating to lower limbs since 1½ years with severe pain and tightening in lower limbs since 1 month. MRI showed ovoid lesion in cauda equina arising from filum terminale. Patient underwent L2 and partial L3 laminectomy with complete tumour resection and mass was sent for histopathological examination which showed a well circumscribed neoplasm composed of monotonous cells arranged in trabeculae and forming papillary pseudorosettes. The cells show round nuclei with speckled chromatin and fine granular cytoplasm. Occasional mitotic figures were seen (2-3/10hpf) with interspersed blood vessels. IHC was reviewed (Synaptophysin -diffuse positive, S-100- faint positive, Ki67-4%, GFAP, EMA AND GATA 3 Negative) and diagnosed as NET, CNS WHO grade 1.

**Conclusion:** Around 300 cases of cauda equine NETs have been described in literatures commonly presenting with low back pain and sciatica. Majority of cauda equina NETs are slow growing and are cured by total excision. Less than 1% may be locally aggressive. These tumors are histogenetically and molecularly distinct from paragangliomas outside the CNS. Pre-operative diagnosis of NET is difficult as MRI findings are nonspecific and often mistaken for schwannoma or ependymoma.

**Keywords:** NETs, Paragangliomas

## ABSTRACTS

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### [IAP-30] Lesson Learned from Histopathology Examination of Ureteropelvic Junction Obstruction: A Case Series

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**Background:** Ureteropelvic junction obstruction (UPJO) is one of the most common congenital urinary tract anomalies in pediatrics, occurring in 1/1000–1/2000 newborns. Ureteropelvic junction obstruction is the most common cause of antenatal hydronephrosis. Ureteropelvic junction obstruction in adults is usually due to secondary causes such as kidney stones and previous surgery. A histopathological examination is not routinely performed in UPJO. If done, we can evaluate the anatomical changes microscopically and provide additional information on the clinical course of the disease.

**Objective:** We present 3 cases of various ages and genders to evaluate the histopathological changes in UPJO.

#### **Case description:**

##### **Case 1**

A 2-year-old girl underwent pyeloplasty. Specimens showed inflammation and fibrotic tissues with smooth muscle proliferation. Trichrome staining showed an irregular structure of muscle tissues.

##### **Case 2**

A 2-year-old boy with stenosis in the ureteral junction underwent nephrostomy. Specimens showed hydronephrosis with fibrotic tissues and trichrome showed irregularity in the muscle.

##### **Case 3**

A 40-year-old female with a prior history of total hysterectomy complained of stenosis. The specimen showed erosive bladder mucosa and muscle irregularity with additional trichrome staining.

**Conclusion:** Histopathological examination of UPJO showed morphological changes in muscle fibers and collagen. Early diagnosis and prompt treatment of UPJO are very important to prevent kidney damage and loss.

**Keywords:** Ureteropelvic junction obstruction, anomalies, histopathology.

## ABSTRACTS

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### [IAP-31] Adenoid Cystic Carcinoma of the Female Breast: A Definitive Diagnostic Approach and Surgical Management

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**Background:** Adenoid Cystic Carcinoma (ACC) of the breast is a rare tumor. It has a good prognosis with a low risk for lymph node and distant metastasis. Definitive diagnosis depends on biopsy findings with immunohistochemistry and molecular testing. There is currently no consensus on treatment.

**Objective:** To report imaging, histopathology, immunohistochemical and molecular features of ACC in a 79-year-old female who underwent modified radical mastectomy and discuss treatment options.

**Case description:** A 79-year-old woman presented with a right breast mass for twenty-five years. A breast ultrasound was done which revealed a BIRADS Category 4A mass. The patient underwent modified radical mastectomy. On gross examination, there was an ovoid mass measuring 3.5 cm in greatest dimension. Microscopic examination revealed predominantly cribriform glands containing secretions. Immunohistochemistry tests were negative for ER/PR and equivocal for HER2/Neu. Fluorescence In-Situ Hybridization (FISH) test shows no HER2/Neu amplification. CD117 is positive in luminal cells and p63 is positive in myoepithelial cells. FISH testing for MYB break apart rearrangement is positive. Results are consistent with ACC. Postoperatively, the patient underwent close surveillance with no radiotherapy and chemotherapy done.

**Conclusion:** ACC is a rare tumor. Microscopically it will appear as cribriform glands with secretions. Immunohistochemistry features include a triple negative ER, PR and HER2/Neu, a positive CD117 in luminal cells, and p63 in myoepithelial cells. Also, FISH MYB break apart rearrangement molecular testing is positive. There is no consensus in treatment. Current treatment options are mostly focused around surgical management and additional chemotherapy or radiotherapy on a case-to-case basis.

**Keywords:** adenoid cystic carcinoma, breast cancer, clinicopathologic features, surgical management, treatment.

## ABSTRACTS

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### [IAP-32] A Sixteen-year-old boy with Multiple Metastatic Lesions of Angiosarcoma Misdiagnosed As Primary Bone Tumor: A Rare Case Report

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**Background:** Angiosarcoma is a malignant tumor of vascular endothelial origin and extremely rare neoplasm in children. The incidence of metastatic varied from 16% to 44%. The most common sites of angiosarcoma metastases are the lungs and bones. Angiosarcoma may also originate from visceral organs, such as heart.

**Objective:** To report an extremely rare case of a 16-year-old boy clinically diagnosed with primary bone tumor and tuberculosis, further investigation results revealed multiple lesion metastatic angiosarcomas.

**Case description:** The patient complained of a lump on the shoulder and knee that was painful and limited movement, shortness of breath, cough, and chest pain since 4 months before his admission to the hospital. CT scan shows an irregular mass in the right atrium and shows suggestive metastatic process on scapula, femur and lung. Histopathological examination from the open lung biopsy specimen and from the core biopsy specimens on the left distal femur and right posterior scapula, and immunohistochemistry examination results revealed the lesion is angiosarcoma.

**Conclusion:** Patient with metastatic angiosarcoma lesion in bone and lung with right atrial mass which highly suspected as primary angiosarcoma was misdiagnosed as primary bone tumor leading to delayed diagnosis, delayed treatment and poor prognosis.

**Keywords:** Angiosarcoma, Metastatic, Misdiagnosed

## ABSTRACTS

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### [IAP-33] Eumycetoma Of Hand- A Clinicopathological Study Of Case Series Of 9 Cases

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**Background:** Mycetoma is a destructive granulomatous infection affecting the skin, subcutaneous tissues, and bones. It occurs frequently in farmers and shepherds. *Madurella mycetomatis* accounts for over 70% of cases. Mycetoma is characterized by clinical triad of painless soft tissue swelling, cutaneous sinuses and presence of colored grains. Diagnosis is based on clinical presentation and histopathology along with fungal culture and molecular methods. Hand eumycetoma is not well described unlike pedal mycetoma.

**Objective:** To study clinicopathological features of eumycetoma of hand occurring in our population.

**Materials and Methods:** H&E slides of hand eumycetoma patients received in our lab from all over the country for primary diagnoses in last 10 years were retrieved and reviewed.

**Results:** Total of 89 cases were reported and 9 cases involved hands. Six were males and 3 females. Age range was 9-65 years (mean 31.3 years). Three were farmers, 1 was labour and 1 was housewife. Majority of patients gave history of hand prick while working.

Mean size of the lesion was 3.44 cm. Histologically, all the cases showed pigmented colonies of septate and branching fungal hyphae highlighted on special stains PASD and Grocott. Follow up cultures were not received. Radiologically, underlying bone involvement was noted in 3 patients, these patients later developed recurrence. Two patients were advised surgical excision and remaining responded to medical treatment.

**Conclusion:** Eumycetoma of hand is rare. Bone involvement is associated with an unfavorable prognosis. Two patients were advised surgical excision and remaining responded to medical treatment.

**Keywords:** Eumycetoma, Hand, *Madurella*, mycetoma

## ABSTRACTS

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### [IAP-34] Types of neoplasms encountered in Whipple excision specimens in a Hepatobiliary Centre in Malaysia

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**Background:** Pancreaticobiliary neoplasms encompass neoplasms arising from the pancreas, biliary tract, gallbladder, and the intra/extrahepatic bile ducts. Whipple procedure refers to the removal of the head of the pancreas, part of duodenum, bile duct and gallbladder. With current advancement of knowledge, WHO has introduced the latest 2019 classification of tumours of these regions.

**Objective:** To determine the anatomic location and histological types of tumours encountered in Whipple excision specimens

**Materials and Methods:** This is a 5 years (January 2017 to December 2021) retrospective study done in Hospital Selayang. A total of 281 cases were retrieved via Laboratory Information System (LIS). Their topographic details and diagnoses were analysed.

**Results:** All patients who underwent Whipple procedures were above 18 years old. Of 231 cases, male (173/231) was predominant. The majority of the HPE findings was malignant (76%) followed by benign (21.4%). Half of the patients had lesions in the pancreas (51%), followed by small intestines/ampulla (25%) and extrahepatic bile ducts (18%). Pancreatic duct adenocarcinoma, NOS contributed the largest reported cases of malignant epithelial tumours.

**Conclusion:** The commonest tumours reported in our centre is adenocarcinoma with pancreatic lesions predominating subjected for Whipple procedures. This figure is in concordance with data from WHO.

**Keywords:** Pancreaticobiliary, Whipple, WHO 2019 classification of digestive system tumours.

## **APPENDIX 1 INFORMATION FOR AUTHORS**

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All authors listed in a paper submitted to Asian Archives of Pathology (AAP) must have contributed substantially to the work. It is the corresponding author who takes responsibility for obtaining permission from all co-authors for the submission. When submitting the paper, the corresponding author is encouraged to indicate the specific contributions of all authors (the author statement, with signatures from all authors and percentage of each contribution can be accepted). Examples of contributions include: designed research, performed research, contributed vital new reagents or analytical tools, analysed data, and wrote the paper. An author may list more than one type of contribution, and more than one author may have contributed to the same aspect of the work.

Authors should take care to exclude overlap and duplication in papers dealing with related materials. See also paragraph on Redundant or Duplicate Publication in “Uniform Requirements for Manuscripts Submitted to Biomedical Journals” at <http://www.icmje.org/index.html>.

The submitted manuscripts will be reviewed by three members of the Editorial Board or three expert reviewers from different institutions. At the discretion of the Editorial Board, the manuscripts may be returned immediately without full review, if deemed not competitive or outside the realm of interests of the majority of the readership of the Journal. The decision (reject, invite revision, and accept) letter will be coming from the Editorial Board who has assumed responsibility for the manuscript’s review. The editor’s decision is based not just on technical merit of the work, but also on other factors such as the priority for publication and the relevance to the Journal’s general readership. All papers are judged in relation to other submissions currently under consideration.

## Categories of Manuscripts

### 1. Letters to the Editor

The letters to the editor are the reactions to any papers published in AAP. These letters will be reviewed by the Editorial Board and sent to the authors of the original paper with an invitation to respond. Letters and eventual responses will be published together, when appropriate.

- *Word Count: 300 – 500 words (excluding references and figure or table legends)*
- *Abstract: Not required*
- *References: Maximum of 10*
- *Figure or Table: Maximum of 1 (if needed)*

### 2. Original Articles

The original articles are the researches describing the novel understanding of anatomical pathology, clinical pathology (laboratory medicine), forensic medicine (legal medicine or medical jurisprudence), molecular medicine or pathobiology. Systematic reviews, meta-analyses and clinical trials are classified as articles. The articles should be clearly and concisely written in the well-organised form (see **Organisation of Manuscripts**): abstract; introduction; materials and methods; results; discussion; and conclusions. The manuscripts that have passed an initial screening by the Editorial Board will be reviewed by two or more experts in the field.

- *Word Count: 3,000 – 5,000 words (excluding abstract, references, and figure or table legends)*
- *Structured Abstract (see Organisation of Manuscripts): 150 – 200 words*
- *References: Maximum of 150*
- *Figures or Tables: Maximum of 6*

### 3. Review Articles

The review articles are generally invited by the Editor-in-Chief. They should focus on a topic of broad scientific interest and on recent advances. These articles are peer-reviewed before the final decision to accept or reject the manuscript for publication. Therefore, revisions may be required.

- *Word Count: 3,000 – 5,000 words (excluding abstract, references, and figure or table legends)*
- *Unstructured Abstract: 150 – 200 words*
- *References: Maximum of 150*
- *Figures or Tables: Maximum of 4*

### 4. Case Reports

AAP limits publication of case reports to those that are truly novel, unexpected or unusual, provide new information about anatomical pathology, clinical pathology (laboratory medicine) or forensic medicine (legal medicine or medical jurisprudence). In addition, they must have educational value for the aforementioned fields. The journal will not consider case reports describing preventive or therapeutic interventions, as these generally require stronger evidence. Case reports that involve a substantial literature review should be submitted as a review article. The submitted case reports will undergo the usual peer-reviewed process.

- *Word Count: 1,200 – 2,000 words (excluding abstract, references, and figure or table legends)*
- *Unstructured Abstract: 150 – 200 words*
- *References: Maximum of 20*
- *Figures or Tables: Maximum of 4*

### 5. Case Illustrations

Case illustrations are aimed to provide education to readers through multidisciplinary clinicopathological discussions of interesting cases. The manuscript consists of a clinical presentation or description, laboratory investigations, discussion, final diagnosis, and up to 5 take-home messages (learning points). Regarding continuous learning through self-assessment, each of the case illustrations will contain 3 – 5 multiple choice questions (MCQs) with 4 – 5 suggested answers for each question. These MCQs are placed after the final diagnosis and the correct answers should be revealed after the references. The questions and take-home messages (learning points) are included in the total word count. The manuscripts that have passed an initial screening by the Editorial Board will be reviewed by two experts in the field.

- *Word Count: 1,000 – 2,000 words (excluding references and figure or table legends)*
- *Abstract: Not required*
- *References: Maximum of 10*
- *Figures: Maximum of 2*
- *Tables: Maximum of 5*

## 6. Technical Notes

The technical notes are brief descriptions of scientific techniques used in the anatomical pathology, clinical pathology (laboratory medicine), forensic medicine (legal medicine or medical jurisprudence), molecular medicine or pathobiology. The submitted manuscripts are usually peer-reviewed.

- *Word Count: Maximum of 1,000 words (excluding references and figure or table legends)*
- *Abstract: Not required*
- *References: Maximum of 5*
- *Figures or Tables: Maximum of 2*

## Organisation of Manuscripts

### 1. General Format

The manuscripts written in English language are preferable. However, Thai papers are also acceptable, but their title pages, abstracts, and keywords must contain both Thai and English. These English and Thai manuscripts are prepared in A4-sized Microsoft Word documents with leaving 2.54-cm (1-inch) margins on all sides. All documents are required to be aligned left and double-spaced throughout the entire manuscript. The text should be typed in 12-point regular Times New Roman font for English manuscript and 16-point regular TH SarabunPSK font for Thai manuscript.

The running titles of English and Thai manuscripts are placed in the top left-hand corner of each page. They cannot exceed 50 characters, including spaces between words and punctuation. For the header of English paper, the running title will be typed in all capital letters. The page number goes on the top right-hand corner.

Footnotes are not used in the manuscripts, but parenthetical statements within text are applied instead and sparingly. Abbreviations should be defined at first mention and thereafter used consistently throughout the article. The standard abbreviations for units of measure must be used in conjunction with numbers.

All studies that involve human subjects should not mention subjects' identifying information (e.g. initials) unless the information is essential for scientific purposes and the patients (or parents or guardians) give written informed consent for publication.

### 2. Title Page

The title page is the first page of the manuscripts and must contain the following:

- The title of the paper (not more than 150 characters, including spaces between words)
- The full names, institutional addresses, and email addresses for all authors (If authors regard it as essential to indicate that two or more co-authors are equal in status, they may be identified by an asterisk symbol with the caption “These authors contributed equally to this work” immediately under the address list.)
- The name, surname, full postal address, telephone number, facsimile number, and email address of the corresponding author who will take primary responsibility for communication with AAP.
- Conflict of interest statement (If there are no conflicts of interest for any author, the following statement should be inserted: “The authors declare that they have no conflicts of interest with the contents of this article.”)

### 3. Abstract

A structured form of abstract is used in all Original Article manuscripts and must include the following separate sections:

- *Background: The main context of the study*
- *Objective: The main purpose of the study*
- *Materials and Methods: How the study was performed*
- *Results: The main findings*
- *Conclusions: Brief summary and potential implications*
- *Keywords: 3 – 5 words or phrases (listed in alphabetical order) representing the main content of the article*

### 4. Introduction

The Introduction section should clearly explain the background to the study, its aims, a summary of the existing literature and why this study was necessary or its contribution to the field.

### 5. Materials and Methods

The Materials and Methods section must be described in sufficient detail to allow the experiments or data collection to be reproduced by others. Common routine methods that have been published in detail elsewhere should not be described in detail. They need only be described in outline with an appropriate reference to a full description. Authors should provide the names of the manufacturers and their locations for any specifically named medical equipment and instruments, and all chemicals and drugs should be identified by their systematic and pharmaceutical names, and by their trivial

and trade names if relevant, respectively. Calculations and the statistical methods employed must be described in this section.

All studies involving animal or human subjects must abide by the rules of the appropriate Internal Review Board and the tenets of the recently revised Helsinki protocol. Hence, the manuscripts must include the name of the ethics committee that approved the study and the committee's reference number if appropriate.

## 6. Results

The Results section should concisely describe the findings of the study including, if appropriate, results of statistical analysis which must be presented either in the text or as tables and figures. It should follow a logical sequence. However, the description of results should not simply repeat the data that appear in tables and figures and, likewise, the same data should not be displayed in both tables and figures. Any chemical equations, structural formulas or mathematical equations should be placed between successive lines of text. The authors do not discuss the results or draw any conclusions in this section.

## 7. Discussion

The Discussion section should focus on the interpretation and the significance of the findings against the background of existing knowledge. The discussion should not repeat information in the results. The authors will clearly identify any aspects that are novel. In addition, there is the relation between the results and other work in the area.

## 8. Conclusion

The Conclusion section should state clearly the main summaries and provide an explanation of the importance and relevance of the study reported. The author will also describe some indication of the direction future research should take.

## 9. Acknowledgements

The Acknowledgements section should be any brief notes of thanks to the following:

- *Funding sources*
- *A person who provided purely technical help or writing assistance*
- *A department chair who provided only general support*
- *Sources of material (e.g. novel drugs) not available commercially*

Thanks to anonymous reviewers are not allowed. If you do not have anyone to acknowledge, please write “Not applicable” in this section.

## 10. References

The Vancouver system of referencing should be used in the manuscripts. References should be cited numerically in the order they appear in the text. The authors should identify references in text, tables, and legends by Arabic numerals in parentheses or as superscripts. Please give names of all authors and editors. The references should be numbered and listed in order of appearance in the text. The names of all authors are cited when there are six or fewer. When there are seven or more, only the first three followed by “et al.” should be given. The names of journals should be abbreviated in the style used in Index Medicus (see examples below). Reference to unpublished data and personal communications should not appear in the list but should be cited in the text only (e.g. A Smith, unpubl. Data, 2000).

- *Journal article*
  1. Sibai BM. Magnesium sulfate is the ideal anticonvulsant in preeclampsia – eclampsia. Am J Obstet Gynecol 1990; 162: 1141 – 5.
- *Books*
  2. Remington JS, Swartz MN. Current Topics in Infectious Diseases, Vol 21. Boston: Blackwell Science Publication, 2001.

- *Chapter in a book*
  3. Cunningham FG, Hauth JC, Leveno KJ, Gilstrap L III, Bloom SL, Wenstrom KD. Hypertensive disorders in pregnancy. In: Cunningham FG, Hauth JC, Leveno KJ, Gilstrap L III, Brom SL, Wenstrom KD, eds. *Williams Obstetrics*, 22<sup>nd</sup> ed. New York: McGraw-Hill, 2005: 761 – 808.

## 11. Tables

The tables should be self-contained and complement, but without duplication, information contained in the text. They should be numbered consecutively in Arabic numerals (Table 1, Table 2, etc.). Each table should be presented on a separate page with a comprehensive but concise legend above the table. The tables should be double-spaced and vertical lines should not be used to separate the columns. The column headings should be brief, with units of measurement in parentheses. All abbreviations should be defined in footnotes. The tables and their legends and footnotes should be understandable without reference to the text. The authors should ensure that the data in the tables are consistent with those cited in the relevant places in the text, totals add up correctly, and percentages have been calculated correctly.

## 12. Figure Legends

The legends should be self-explanatory and typed on a separate page titled “Figure Legends”. They should incorporate definitions of any symbols used and all abbreviations and units of measurement should be explained so that the figures and their legends are understandable without reference to the text.

If the tables or figures have been published before, the authors must obtain written permission to reproduce the materials in both print and electronic formats from the copyright owner and submit them with the manuscripts. These also follow for quotes, illustrations, and other materials taken from previously published works not in the public domain. The original resources should be cited in the figure captions or table footnotes.

## 13. Figures

All illustrations (line drawings and photographs) are classified as figures. The figures should be numbered consecutively in Arabic numerals (Figure 1, Figure 2, etc.). They are submitted electronically along with the manuscripts. These figures should be referred to specifically in the text of the papers but should not be embedded within the text. The following information must be stated to each microscopic image: staining method, magnification (especially for electron micrograph), and numerical aperture of the objective lens. The authors are encouraged to use digital images (at least 300 d.p.i.) in .jpg or .tif

formats. The use of three-dimensional histograms is strongly discouraged when the addition of these histograms gives no extra information.

## 14. Components

### 14.1. Letters to the Editor

The Letter to the Editor manuscripts consist of the following order:

- *Title Page*
- *Main Text*
- *References*
- *Table (if needed)*
- *Figure Legend (if needed)*
- *Figure (if needed)*

### 14.2. Original Articles

The Original Article manuscripts consist of the following order:

- *Title Page*
- *Structured Abstract*
- *Introduction*
- *Materials and Methods*
- *Results*
- *Discussion*
- *Conclusions*
- *Acknowledgements*
- *References*
- *Table (s)*
- *Figure Legend (s)*
- *Figure (s)*

### 14.3. Review Articles

The Review Article manuscripts consist of the following order:

- *Title Page*
- *Unstructured Abstract*
- *Introduction*
- *Main Text*
- *Conclusions*
- *Acknowledgements*
- *References*

- *Table (s)*
- *Figure Legend (s)*
- *Figure (s)*

#### 14.4. Case Reports

The Case Report manuscripts consist of the following order:

- *Title Page*
- *Unstructured Abstract*
- *Introduction*
- *Case Description*
- *Discussion*
- *Conclusions*
- *Acknowledgements*
- *References*
- *Table (s)*
- *Figure Legend (s)*
- *Figure (s)*

#### 14.5. Case Illustrations

The Case Illustration manuscripts consist of the following order:

- *Title Page*
- *Clinical Presentation or Description*
- *Laboratory Investigations*
- *Discussion*
- *Final Diagnosis*
- *Multiple Choice Questions (MCQs)*
- *Take-Home Messages (Learning Points)*
- *Acknowledgements*
- *References*
- *Correct Answers to MCQs*
- *Table (s)*
- *Figure Legend (s)*
- *Figure (s)*

#### 14.6. Technical Notes

The Technical Note manuscripts consist of the following order:

- *Title Page*

- *Introduction*
- *Main text*
- *Conclusions*
- *Acknowledgements*
- *References*
- *Table (s)*
- *Figure Legend (s)*
- *Figure (s)*

## **Proofreading**

The authors of the accepted manuscripts will receive proofs and are responsible for proofreading and checking the entire article, including tables, figures, and references. These authors should correct only typesetting errors at this stage and may be charged for extensive alterations. Page proofs must be returned within 48 hours to avoid delays in publication.

## **Revised Manuscripts**

In many cases, the authors will be invited to make revisions to their manuscripts. The revised manuscripts must generally be received by the Editorial Board within 3 months of the date on the decision letter or they will be considered a new submission. An extension can sometimes be negotiated with the Editorial Board.

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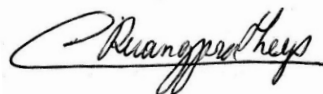
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*Editor-in-Chief of Asian Archives of Pathology*

## **ACADEMIC MEETINGS AND CONFERENCES**

Announcements of academic meetings and conferences that are of interest to the readers of Asian Archives of Pathology (AAP) should be sent to the Editor-in-Chief at least 3 months before the first day of the month of issue. The contact information is shown below.

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# WHAT IS INSIDE THIS ISSUE?

Virtual Meeting



IAP-THAILAND  
ASSOCIATION  
Founded 1960

## The 61<sup>st</sup> IAP-Thailand Annual Meeting 2022

November 2<sup>nd</sup> - 4<sup>th</sup>, 2022



### Invited Speakers:

Aatur D. Singhi (USA)  
Andrew Bellizzi (USA)  
Andrew L. Folpe (USA)  
Beatriz S. Lopes (USA)  
Bita Naini (USA)  
Carolin Lackner (Austria)  
Christina Arnold (USA)  
Christopher Corless (USA)  
Craig M. Horbinski (USA)  
Ekarat Phattaratatip (Thailand)  
Ekene Okoye (USA)  
Fátima Carneiro (Portugal)  
Francisco Bravo (Peru)  
Genevieve M. Crane (USA)  
Guliz A. Barkan (USA)  
Haeryoung Kim (South Korea)  
Hanlin Wang (USA)  
Jen-Fan Hang (Taiwan)  
Jian Wang (China)  
Joseph Maleszewski (USA)  
Kenneth Chang (Singapore)

Kung-Chao Chang (Taiwan)  
Kran Suknuntha (Thailand)  
Laura C. Collins (USA)  
Liron Pantanowitz (USA)  
Miao Zhang (USA)  
Michael Seidman (Canada)  
Patcharaporn Techasintana Sarasombath (Thailand)  
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Puay Hoon Tan (Singapore)  
Qinghu Ren (USA)  
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Sophia Yohe (USA)  
Suthinee Rutnin (Thailand)  
Takako Kiyokawa (Japan)  
Tarik Tihan (US)  
Wayne Grayson (South Africa)  
William C. Faquin (USA)  
Yun Gong (USA)

### Registration fee

| Date (2022)                                | International Pathologist (USD) | International Trainee (USD) | Thai Pathologist (THB) | Thai Trainee (THB) |
|--|---------------------------------|-----------------------------|------------------------|--------------------|
| Aug 1 <sup>st</sup> - Sep 30 <sup>th</sup> | 120                             | 100                         | 2500                   | 2000               |
| Oct 1 <sup>st</sup> - Oct 20 <sup>th</sup> | 140                             | 120                         | 3000                   | 2500               |

All academic sessions will be presented in English

✉ [contact@iapthailand.com](mailto:contact@iapthailand.com)

🌐 <http://www.iapthailand.com/meeting2022>