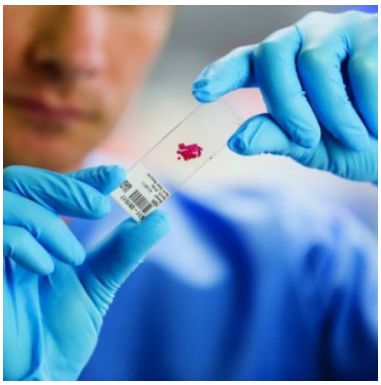
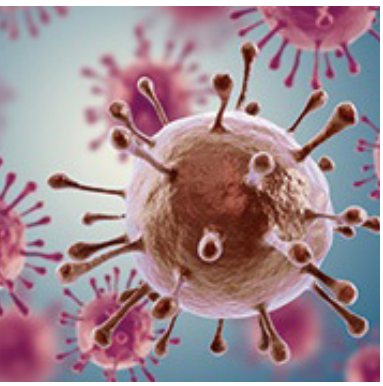
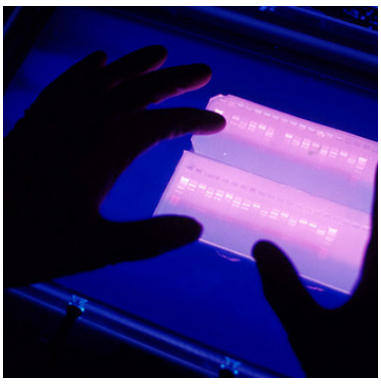
E-Poster Presentation

Pathology & Surgical Pathology 2018




International Conference on

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A rare collision of mature cystic teratoma with benign Brenner tumor in ovary

R Rahul Dev Singh, Sunethri Padma and **Sai Kumar Maley**
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Collision tumors are rare clinical entities wherein two histologically distinct tumor types occur at the same anatomic site and collision can occur between tumors originating in the same organ or between metastases from other sites. Though collision tumors have been described in multiple locations, including gastric cardia, cervix, urinary bladder, liver, lung, oral cavity, thyroid, and bile duct, their occurrence in Ovary is rare. Most of the collision tumors have been documented between carcinomas and sarcomas/ lymphomas and rarely between two types of carcinomas. In ovary combinations of collision tumors that have been reported are serous papillary cystadenocarcinoma and granulosa cell tumor, serous adenocarcinoma and steroid cell tumor, and teratoma with granulosa cell tumor. We report a rare case with a combination of Mature Cystic Teratoma with Benign Brenner tumor. A 38-year-old patient presented with right ovarian mass. Ultrasound revealed a mass in right ovary with solid and cystic component. Radiological diagnosis was mature Teratoma. The case was operated, and ovarian mass sent for histopathological examination. On gross examination, the ovarian mass was 5.2x4x3.5cm. Cut section revealed cyst filled with pultaceous material and hair along with solid areas adjacent to the cyst wall. Microscopic examination revealed mature cystic Teratoma along with benign Brenner Tumor in the solid area. In conclusion, all the multiloculate cysts of ovary must be meticulously grossed and examined, so as not to miss any component of collision tumor which might affect the prognosis of the patient.

Speaker Biography

R Rahul Dev Singh has completed his residency training in pathology and senior residency from Gandhi Medical College, Secunderabad, Telangana, India. He is interested in Haematological diseases and in gastrointestinal pathology. His dissertation work was on spectrum of lesions in colon and rectum in different age groups in the regional population.

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Trilateral Retinoblastoma: A rare case report

Sai Kumar Maley, Rahul Dev Singh, Uma Nagendra Vishnu, Chanakya Charan Tirumala, Siddartha Reddy Musali and **Sandeep Lakkarasu**
Osmania Medical College, India

Trilateral retinoblastoma syndrome (TRB) is a rare condition, it is characterized by intra cranial neoplasm in the pineal region or Sella/suprasellar region along with a unilateral or a bilateral retinoblastoma. The intra-cranial neoplasm can occur after many years in post treatment phase of successfully treated ocular retinoblastoma. Here we present a case of a 9months old baby girl brought by her mother with complaints of vomiting, loss of eye contact and one episode of seizure. On thorough evaluation it was found that both the eyes were showing leukocoria and fundoscopic examination revealed tumour in both the eyes. Right fundus showed exudative retinal detachment and left fundus was not visualized. Subsequent MRI of brain revealed showed moderately enhancing T1 hypo & T2 isointense lesions in the posterior aspects of both the globes; 1.7x0.6cm on right side and 2x1.6cm on the left side with extension up to optic nerve heads bilaterally and up to lens on left side noted. Large intensely enhancing suprasellar and sellar mass measuring 5.4x4.5x4.8cm with focal cystic changes and calcifications seen exerting mass effect on 3rd ventricle causing obstructive hydrocephalus. Nodular Dural metastasis along brainstem cisterns, cerebellar occipital surface and the spinal canal in the dorso-lumbar region noted. Intra-cranial mass was partially removed, and the histopathology showed Homer- Wright rosettes and Flexner Winter Steiner rosettes and immunohistochemistry w a positive suggesting feature of retinoblastoma. A possibility of direct intracranial extension was considered as both the optic nerve heads were involved. Such kind of cases require a genetic screening, as most of them are hereditary and harbour a worse prognosis over unilateral ocular retinoblastoma.

Speaker Biography

Sai Kumar Maley has completed his residency training in pathology and senior residency from Osmania Medical College. He is interested in research on pulmonary malignancies and his post-doctoral dissertation work was centered on the immunocytochemical diagnosis of pulmonary malignancies in low resource setup's and his work highlighted an effective and economical usage of immunohistochemical markers and worked on the preanalytical variables influence on the outcomes.

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Primary cardiac sarcoidosis causing sudden death: A case report

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The occurrence of unanticipated death of a young person is traumatic to the family and calls for thorough evaluation. In recent years, sudden cardiac deaths have been increasing in all age groups. Cardiomyopathies and congenital heart diseases are the commonest cause of death in young individuals. Here we report a case of young boy who suffered a sudden death. A 16 years old boy complained of headache and discomfort. He had no similar complaints in the past. He went to bed early that day and was found dead the next day morning. The body was subjected to post mortem examination. There were no positive findings on external examination. Internal examination also revealed no significant findings except small nodules on heart. On gross examination, heart showed multiple nodules on the surface. On dissection, similar nodules were seen with in the wall of the left ventricle extending the full thickness of the ventricle wall. H&E stained sections from these nodules showed numerous non caseating granulomas. Special stains for fungus and acid-fast bacilli were negative. Examination of lung and other organs did not reveal any such granuloma. The case was diagnosed as Primary Cardiac Sarcoidosis.

Isolated Primary Cardiac Sarcoidosis is very rare. Cardiac involvement in sarcoidosis has been reported in up to 30% of patients with sarcoidosis. Diagnosis of cardiac Sarcoidosis is difficult because the symptoms are non-specific and there is no definite non-invasive diagnostic modality. These patients most commonly suffer from conduction abnormalities like ventricular fibrillation causing sudden death.

Speaker Biography

Sunethri Padma is presently working as Assistant professor at Gandhi medical College, Hyderabad, India. She had done her masters in Pathology from Osmania Medical College and presently pursuing PhD in pathology. Her fields of interest are gynaecological pathology and Gastrointestinal, tract pathology. Her PhD dissertation work is also on Gastrointestinal pathology. She shows remarkable interest in teaching and other academic activities.

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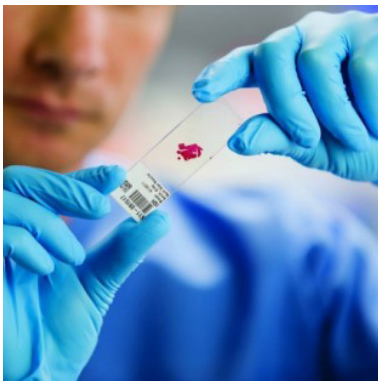

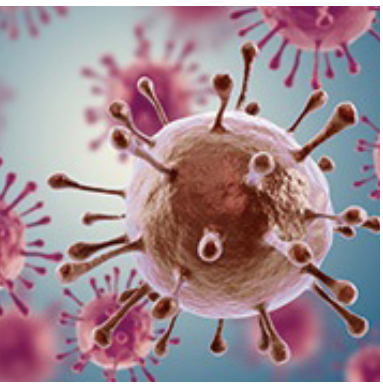
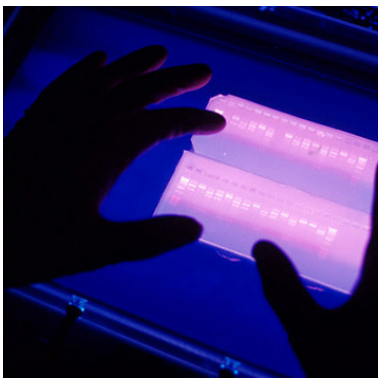


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RegenerAge System: Therapeutic effects of combinatorial biologics (mRNA and Allogenic MSCs) with a Spinal cord stimulation system on a patient with Spinal Cord section

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As it has been previously demonstrated that co-electroporation of Xenopus laevis frog oocytes with normal cells and cancerous cell lines induces the expression of pluripotency markers, and in experimental murine model studies that mRNA extract (Bioquantine® purified from intra- and extra-oocyte liquid phases of electroporated oocytes) showed potential as a treatment for a wide range of conditions as Squint, Spinal Cord Injury (SCI) and Cerebral Palsy among others. The current study observed beneficial changes with Bioquantine® administration in a patient with a severe SCI. Pluripotent stem cells have therapeutic and regenerative potential in clinical situations CNS disorders even cancer.

One method of reprogramming somatic cells into pluripotent stem cells is to expose them to extracts prepared from Xenopus laevis oocytes. We showed previously that coelectroporation of Xenopus laevis frog oocytes; with normal cells and cancerous cells lines, induces expression of markers of pluripotency. We also observed therapeutic effects of treatment with a purified extract (Bioquantine) of intra- and extra-oocyte liquid phases derived from electroporated X. laevis oocytes, on experimentally induced pathologies including murine models of melanoma, traumatic brain injury, and experimental skin wrinkling induced by squalene- monohydroperoxide (Paylian et al, 2016). The positive human findings for Spinal Cord Injury, and Cerebral Palsy with the results from previous animal studies with experimental models of traumatic brain injury, respectively (Paylian et al, 2016). Because of ethical reasons, legal restrictions, and a limited number of patients, we were able to treat only a very small number of patients. These results indicate that Bioquantine may be safe and well tolerated for use in humans and deserves further study in a range of degenerative disorders. We propose that the mechanism of action of Bioquantine in these various diseases derives from its unique pharmacology and combinatorial reprogramming properties. In conclusion, these preliminary findings suggest that Bioquantine is safe and well tolerated on patients with Cerebral Palsy and Spinal Cord Injury, among others. In addition to the regenerative therapy and due to the patient condition, we decided to include the Restore-Sensor SureScan. Based on the of electrical stimulation for rehabilitation and regeneration after spinal cord injury published by Hamid and MacEwan, we designed an improved delivery method for the in-situ application of MSCs and Bioquantine in combination with the

RestoreSensor SureScan Conclusions: To the present day the patient who suffered a total section of spinal cord at T12-L1 shows an improvement in sensitivity, strength in striated muscle and smooth muscle connection, 11 months after the first therapy of cell regeneration and 3 month after the placement of RestoreSensor at the level of the lesion, the patient with a complete medullary section shows an evident improvement on his therapy of physical rehabilitation on crawling from front to back by himself and standing on his feet for the first time and showing a progressively important functionality on the gluteal and legs sensitivity.

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Merkel cell carcinoma of unknown primary site: A case presentation and review of the literature

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Merkel cell carcinoma (MCC) is a rare and highly aggressive neuroendocrine tumor of the skin. MCC was described first by Toker in 1972 as trabecular carcinoma of the dermis with high lymphatic metastatic risk. The incidence of this rare tumor is increasing rapidly; the American Cancer Society estimates 1500 new cases in the USA. Based on case reports, the risk factors include: ultraviolet exposure, Merkel Cell polyomavirus DNA infection, immunosuppression (HIV-patients, post transplant pts under immunosuppresive therapy).

MCC is characterized by a high incidence of early locoregional relapse and distant metastases. The clinical and pathologic diagnosis of MCC can be challenging, especially when it presents as nodal metastasis. As a "small round blue cell tumor," it can be difficult to differentiate from other small cell neoplasms of different primary origin. Diagnosis is based on typical histology representation on hematoxylin-eosin stained slides along with the results of immunohistochemistry. The tumour expresses both epithelial and neuroendocrine markers, so exhibits both epithelial and neuroendocrine differentiation.

Despite aggressive multimodality treatment, Merkel Cell Carcinoma outcome is primarily based on the stage of disease at presentation, with both increasing tumor size and lymph node positivity being associated with a worse prognosis. Moreover, the mortality rate of MCC is considerably higher than that of cutaneous melanoma.

Although it has been identified in various anatomical sites, LN metastatic MCC in the absence of a primary site is extremely rare and for this reason there is no standard approach to its management.

We report a case of a 39 year-old male, diagnosed with HIV infection 8 years ago, who presented to the hospital with an enlarged lymphnode in the left inguinal area, which revealed to be metastatic Merkel Cell Carcinoma in the absence of a primary skin lesion.

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Hydatid disease of bone: a case report and literature review

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Hydatid disease is a parasitic infestation caused by larvae of the tapeworm Echinococcus. It is endemic in Morocco and Mediterranean countries. It may develop in almost any part of the body. The liver is the most frequently involved organ (75%) followed by the lung (15%) and the remainder of the body (10%). Hydatidosis of bone is rare, accounting for only 0.5% to 2.5% of human hydatidosis. It represents one of the most severe forms of this infection.

Case presentation: We report the observation of a female patient with no previous history, aged 66 years. The clinical examination finds a swelling of the right knee evolving for 2 years. Radiological investigations showed a poorly limited osteolytic tumor taking the knee and the anterior compartment of the thigh. Surgical treatment consisted of disarticulation of the right hip. The macroscopic examination found a multilocular lesion containing clear fluid and daughter cysts measuring 23 cm taking the patellofemoral joint and the anterior compartment of the thigh. Histological examination showed a pink lamellar cuticular membrane lined by compresed germinal epithelium and surrounded by a polymorphous granulation tissue, fibrosis, and an inflammatory reaction rich in eosinophils.

Because of the clinical latency of hydatid disease, hydatid disease of bone should be considered in the differential diagnosis of any bone mass discovered in the human body. Surgical treatment with histologic examination can provide a definitive diagnosis.

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Immunohistochemical expression and microsatellite instability in endometrial carcinoma

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Background: Endometrial cancer (EC) is the fifth most common female cancer worldwide constituting 4.8% of cancer in women. In 2012, around 320,000 new cases of endometrial cancer were diagnosed worldwide (Ferlay et al., 2015). EC is a disease of older, postmenopausal women (i.e., the sixth and seventh decades of life) and is uncommon in young women; 2% to14% of endometrial carcinomas occur in women 40 years of age and younger. Most of these patients have an identifiable source of excess estrogen, while in a small subset the pathogenesis is related to mismatch repair abnormality and Lynch syndrome (Garg and Soslow, 2014). Mismatch repair (MMR) behave as tumor suppressors and the most clinically relevant include MLH1, MSH2, MSH6, and PMS2 (Frolova et al., 2015). MMR results in a strong mutator phenotype known as microsatellite instability (MSI), which is a hallmark of Lynch syndrome-associated cancers (Yamamoto & Imai, 2015).

Aim of the work: To detect the expression of MMR proteins in endometrial carcinoma cases using the immunohistochemical (IHC) technique (MLH1, MSH2, MSH6 and PMS2) with correlation to different clinicopathologic parameters.

Material and methods: In this study, the pathology files at the Pathology Department, Kasr Al Ainy Hospitals and Ahmed Maher Teaching Hospital were reviewed to randomly 60 endometrial carcinoma cases. Five-micron thick sections stained with hematoxylin and eosin (H&E) and MLH-1, MSH-2, MSH-6 and PMS-2 immunostains. Loss of MLH1 and PMS2 was interpreted as a likely abnormality in MLH1, whether by germline defect or epigenetic mechanism whereas isolated loss of PMS2 was considered likely due to a germline PMS2 mutation. Similarly, concurrent loss of MSH2 and MSH6 suggested an MSH2 germline defect, whereas isolated loss of MSH6 was suggestive of mutations in MSH6 alone.

Results: A statistically significant relationship exists between MMR IHC proteins and tumor grade. However, a statistically insignificant correlation was found between MMR IHC proteins and the age of patients; tumor histopathological types and FIGO stage.

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Efficacy in the use of local anesthesia in patients with surgical intervention for the resolution of anorectal pathologies

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A prospective, comparative, longitudinal study was conducted in the period from April 2016 to January 2017 in order to determine the efficacy of local anesthesia for the surgical resolution of anorectal pathologies in surgically operated patients who attended the General University Hospital "Luis Gomez Lopez. Thus, the population was composed of patients with anorectal pathologies of low complexity, with no previous anorectal surgical history (Hemorrhoids, anal fissure, perianal fistula, hypertrophic anal papilla, perianal condyloma acuminata), which were agreed to be included in this study, without contraindications for use of local anesthesia. A non-probabilistic, intentional sample was made up of 30 patients and the anesthetic protocol was administered following an anesthetic protocol of perianal local anesthesia using anesthetic mixture (70% of 2% Lidocaine + 30% of 0.5% Bupivacaine) quantifying pain tolerance during the intraoperative period on the first and fifth postoperative days, as well as any adverse effects. The results were expressed in absolute numbers and percentages; a good tolerance to pain was observed with some differences related to the sex of the individuals studied; no complications were observed.

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Prevalence and factors associated with hydatidiform mole among patients undergoing uterine evacuation at Mbarara regional referral hospital

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Objective: We sought to determine the prevalence of and factors associated with hydatidiform molar gestations amongst patients undergoing uterine evacuation at Mbarara Regional Referral Hospital (MRRH) Mbarara, Uganda.

Methods: This was a Cross-sectional study carried out from November 2016 to February 2017. All patients admitted for uterine evacuation for non-viable pregnancy were included. The study registered 181 patients. Data was collected on socio-demographics, medical conditions, obstetrics and gynecological factors. The evacuated tissue received a full gross and histopathologic examination. Cases of pathologically suspected complete hydatidiform mole were confirmed by p57 immunohistochemistry. Data was analyzed using STATA 13.

Results: The Prevalence of hydatidiform mole was 6.1% (11/181). All detected moles were complete hydatidiform moles, there were no diagnosed partial hydatidiform moles. Clinical diagnosis of molar pregnancy was suspected in 13 patients but only 69.2% (9/13) were confirmed as molar pregnancies histologically. Two cases were clinically unsuspected. Factors that had a significant relationship with complete hydatidiform mole included maternal age of 35 years and above (aOR 13.5; CI: 1.46-125.31; p=0.00), gestational age beyond the first trimester at the time of uterine evacuation (aOR 6.2; CI: 1.07-36.14; p=0.04) and history of previous abortion (aOR 4.3; CI: 1.00-18.57; p=0.05).

Conclusion: The prevalence of complete hydatidiform mole was high at 6.1%.

Associated risk factors included advanced maternal age (35 years and above), history of previous abortions, and gestational age beyond the first trimester at the time of evacuations.

Recommendations: We recommend putting in place capacity to do routine histopathological examination of all products of conception especially those at high risk for a molar gestation either by clinical suspicion or risk factors including advanced maternal age, advanced gestational age, and history of previous abortion because of high prevalence of complete mole. We recommend a cohort study aimed to determine risk factors of hydatidiform mole and to determine the outcome of patients with hydatidiform mole undergoing uterine evacuation at MRRH.

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Study of megakaryocytic morphology by digital morphometry in bone marrow biopsy specimens in hematological diseases

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Introduction & Background: Megakaryocytes are unique and dynamic cells which produce platelets by cytoplasmic fragmentation. They are affected in a variety of hematological conditions. A defect in any stage of megakaryocytopoiesis can lead to dyspoietic megakaryocytes or thrombocytopenia. This mandates the need to assess them qualitatively and quantitatively. Digital morphometric analysis can be used to precisely quantify the megakaryocytic morphology with respect to area, nuclear size, nuclear cytoplasmic ratio, nuclear roundness factor, nuclear contour ratio.

Material and Methods: Hematoxylin & Eosin (H&E), Immunohistochemistry (IHC) stained sections of bone marrow biopsies were evaluated for megakaryocyte morphology and computer assisted digital morphometry. High resolution photomicrographs were taken for all cases and a minimum of 10 megakaryocytes were evaluated for each case. The cytoplasmic and nuclear delineation was done manually and precise measurements of cell area, perimeter, nuclear size, shape, nucleus to cytoplasm ratio and important indices were evaluated by computer assisted digital morphometry and correlated.

Results: 170 Bone marrow biopsies were studied which included myeloproliferative neoplasms (MPN) namely chronic myeloid leukemia, Polycythemia Vera, Essential thrombocytosis and Myelofibrosis; Idiopathic thrombocytopenic purpura, Myelodysplastic syndrome, megaloblastic anemia, plasma cell neoplasms and remission marrows post chemotherapy. Statistically significant morphological differences were seen in various hematological groups with regards to cell count, morphology, N:C ratio, nuclear and cytoplasmic perimeter, nuclear and cytoplasmic roundness. IHC (Anti CD 61) was useful in highlighting the megakaryocytes which were missed on H&E especially in MPN's.

Conclusion: Megakaryocytes show significant quantitative and qualitative variations in various haematological disorders, especially myeloproliferative neoplasms. Objective evaluation and classification of megakaryocytes in these disorders may be useful in arriving at an early and a more accurate diagnosis. The morphometric parameters need to be reinforced and validated by a larger study to objectively classify the megakaryocytes.

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Case report: Telangietactic osteosarcoma in a 20 year old male

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Telangiectatic osteosarcoma (TO) is one of the rare subtypes of osteosarcoma (OS) and accounts for less than 4% of all tumors in the appendicular skeleton.TO is a rare variant of OS with distinctive radiographic, gross, and microscopic features and prognostic implications. Although conventional OSs may contain telangiectatic elements, only those composed almost entirely of telangiectatic tissue are generally considered true examples of this entity. We present the case of a 20-year-old male patient who consulted for wrist pain. An X-ray showed a lytic destructive lesion of the distal left radius while magnetic resonance imaging revealed features highly suggestive of telangiectatic osteosarcoma. The lesion was biopsied which confirmed osteosarcoma, with difficulty subtyping due to the limited material available. After four cycles of chemotherapy the patient underwent an elbow disarticulation. The specimen was sent to pathology where gross examination showed cystic lesion filled with blood of the of the distal radial metaphysis. Histological examination showed that the lesion is composed largely of hemorrhage and necrotic debris. Blood pools do not demonstrate an endothelial lining. Within these blood lakes, variously sized septa are identified, which contain atypical stromal cells with nuclear hyperchromasia, atypical mitoses, and pleomorphism.

Telangiectatic osteosarcoma is a rare variant, representing around 3% of osteosarcomas overall. The main differential radiographically, grossly and on histology is with aneurysmal bone cyst and both these lesions tend to occur in the metaphysis of long bones with a peak incidence in the 2nd decade.

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Peripheral neuropathy and the role of nerve biopsy: A revisit

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Background: Nerve biopsy has been widely used to investigate patients with peripheral neuropathy and in many centres it is still a part of the diagnostic armamentarium. In this study the histopathological spectrum of the nerve biopsies received is being revisited to analyze the various clinical and pathologic features and, also, to assess their relevance.

Materials and Methods: Retrospective analysis of the data retrieved was done for 74 cases of nerve biopsies.

Results: On the basis of the data and histopathological features, broad diagnoses were obtained in 52 cases; further categorized into: biopsies being supportive for patient management (including acute and chronic axonopathies, demyelinating neuropathies) and biopsies considered essential for patient management (including vasculitic neuropathies, leprous neuropathies, hereditary neuropathies and chronic inflammatory demyelinating neuropathies). Nine nerve biopsies did not show any abnormal histopathological features while thirteen nerve biopsies were found to be inadequate for diagnosis, both these groups were categorized as non-contributory.

Conclusion: With advanced nerve conduction studies available, nerve biopsy is losing its relevance. However, in our experience, nerve biopsy did complement the clinical findings and nerve conduction studies, with which, a close correlation is required to make the histopathology of nerve biopsy more relevant in terms of guiding further specific work up and management.

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Recent advances in the molecular testing for treatment selection in lung cancer

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Lung cancer is still a biggest dilemma in developing countries where is no rules and regulations of smoking and control of other palliative agents. Biomakers have recently become a part of standard-of-care treatment for cell lung cancer with the recent FDA approval of different drugs in the second-line setting for patients with advanced disease. The concept of chemotherapy and radiation is rapidly changing in advanced countries due the invention of biomarkers.

Lung cancer is a leading cause of malignancy associated human deaths, which is evident from its high mortality rate of 1.6 million (19.4% of total) cancer deaths Worldwide. It is more common in male and elderly group risk factors include smoking, pollution, certain metals (chromium, cadmium), some organic chemicals and radiation. The risk of genetic susceptibility can contribute especially in young.

Thyroid transcription factor 1 (TTF1) is expressed by both neuroendocrine and non-neuroendocrine carcinomas of lung but the frequency of expression varies markedly among various histologic types.

Sensitivity is highest among adenocarcinomas & non-mucinous bronchoalveolar carcinomas where it is over 90%. Lowest expression is seen in mucinous adenocarcinomas and Squamous cell carcinomas. TTF1 expression is also seen albeit focal in a subset of ovarian & colorectal carcinomas. Striking differences in sensitivity are seen among neuroendocrine tumors of lung, varying from 90% in Small cell carcinoma, 50% in large cell neuroendocrine carcinoma and < 50% in carcinoid tumors.

Napsin A is a very sensitive marker for detecting pulmonary adenocarcinomas with a level of sensitivity from 80% to over 90%. The specificity of coexpression of TTF1 and Napsin A is extremely high for pulmonary adenocarcinomas. However Napsin A can be identified in a subset of RCC (most frequently Papillary, up to 80%). Also in a minority of endometrial adenocarcinomas and PTC & Clear cell carcinoma of ovary.

EGFR are the most frequent mutations in Pakistani lung adenocarcinoma patients and around 29% of the patients were found eligible for erlotinib therapy.

Several other immunotherapeutics are currently under investigation for the treatment of NSCLC, including those that inhibit PD-1 and PD-L1

Conclusion: This is an extremely exciting time in the field of thoracic oncology due to the development of immunotherapeutic drugs targeting to different biomarkers responsible for mutation and in the development of lung cancer. Key areas of ongoing investigation are elucidating a predictive biomarker, determining the most appropriate line of therapy to use these drugs, and defining whether combination with other agents (including chemotherapy, targeted therapy, or other immunotherapies) can provide additional benefit.

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