7th International conference

ICON 2020

Virtual conference on
LYMPHOID, DERMATO PATHOLOGY
&
CYTOPATHOLOGY

15th – 17th OCTOBER 2020

Proceedings of the ICON 2020

Organized by
The College of Pathologists of Sri Lanka
and
The Sri Lankan British School of Pathology

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Virtual Conference

on

Lymphoid,

Dermatopathology and

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Absent

Dr Mangala Bopagoda, Dr Saumya Liyanage, Dr Carmalita Senarath, Dr Carishma Fernando, Dr. R.C.U. Priyadarshika, Dr Priyangi Amarabandu

MESSAGE FROM CO-CHAIRPERSONS

DR SHANIKA FERNANDOPULLE – PRESIDENT, COLLEGE OF PATHOLOGISTS OF SRI LANKA

DR DULANI BENERAGAMA – PRESIDENT ELECT, COLLEGE OF PATHOLOGISTS OF SRI LANKA

As co-chairpersons of the Annual Academic Sessions and the 7th International Conference 2020, we are honoured and privileged to share this message with all of you on behalf of the members of the council and the organizing committee of the College of Pathologists of Sri Lanka. As you are aware, the year 2020 was overshadowed by the global, novel corona virus pandemic bringing to a halt many events that were planned in advance, to conform with global heath protocols.

At a time when hosting the 7th International Conference appeared challenging and unrealistic, we are extremely grateful to our resource persons from the United Kingdom Dr. Eduardo Calonje, Dr. Stefan Dojcinov, Prof. Maria Calaminici and Dr. Ula Mahadeva as well as the resource persons from Sri Lanka, Prof. Chandu de Silva, Dr Cherine Sosai and Dr. Harshima Wijesinghe, who rose to the occasion and obliged to conduct the conference in a webinar format as a virtual event. We are indeed very grateful to all of you.We are also very grateful to the British Division of the International Academy of Pathology for their continuous support in the professional development of the Pathologists in Sri Lanka.

We also wish to extend our deep appreciation to the sponsors for their financial support, in spite of the economic impacts by the pandemic, to make this event a success. This event is a collective effort by the two coordinators of the event, members of the council, organizing committee, academic committees and everyone else who contributed in many ways to make this a reality amidst many uncertainties and we deeply appreciate their contribution to organize this conference. Although virtual conferences are novel experience to all of us, we can assure you that this conference will be educative and interesting and that you will benefit from the wide variety of topics discussed over a period of 3 days.

We hope that 7th International Conference will be a memorable event for all of you.

MESSAGE FROM CONFERENCE COORDINATORS

DR INEESHA JAYASINGHE

DR SANDINI GUNARATNE

We are indeed honoured and privileged to give this message of felicitation as the Co-Ordinators of the International Conference on Pathology, organized jointly by the college of Pathologists of Sri Lanka and the British Division of the International Academy of Pathology. We consider this as a great opportunity to strengthen the ties amongst the Pathologists in the two countries.

This conference marks an important milestone in the history of Pathology in Sri Lanka. It is the first ever virtual conference which gives an esteemed group of speakers from the UK an opportunity to connect with those in the same field in Sri Lanka, to share their knowledge on recent advances while enabling delegates to participate in an International Conference in the comfort of their own home.

This is the 7^{the} International event being organized by the Collage since its inception in 1975 and the first to be organized as a virtual conference. The College of Pathologists of Sri Lanka has played a major role in continuous medical education of its membership and other medical professionals. This is yet another event that proves the dedication of the College. The scientific program would help in sharing knowledge and expertise and will open new insights and discussions, thereby paving the way to achieve high standards in the field of Pathology.

We deeply appreciate the contribution from the guest speakers from the United Kingdom and their commitment to make this event a reality. We hope the British Division of the International Academy of Pathology will continue to extend its support in organizing similar events.

The three speakers of our own membership is a pride to us.

We take this opportunity to thank the Co-chairpersons and all the members of the Organizing committee and the Council of the College of Pathologists of Sri Lanka, for the faith entrusted on us and the co-operation extended to us in true team spirit, to ensure the success of the conference.

We must not forget Dr and Dr. (Mrs).Ruwan Ekanayake for their major contribution towards obtaining sponsorships towards this event. Our heartfelt gratitude to all the sponsors for the generous contributions for their support.

We hope this will be a memorable event, fulfilling the aspirations of all the participants

MESSAGE FROM INTERNATIONAL SECRETARY, BDIAP

DR EDUARDO CALONJE

As the International Secretary of the BDIAP I am honoured to have been asked by The College of Pathologists of Sri Lanka to write a short welcome to the participants of the 7th International Conference, ICON 2020, on Haematopathology, Cytopathology and Dermatopathology.

The creation of the Sri Lankan British School of Pathology many years ago encouraged a fruitful association between The College of Pathologists of Sri Lanka and the BDIAP. The meeting originally programmed in Colombo in 2019 was forcibly postponed due to the terrorist attacks in Sri Lanka. This was a big disappointment as we had all worked very hard to put together a very exciting programme. All of us including the BDIAP and the British and Sri Lankan speakers were committed to conduct the meeting in October 2020 in Colombo. Unfortunately, this was not to be as the Covid pandemic hit the world making it impossible for people to travel to the venue. However, this has not deterred us from wanting to share our experience with our colleagues and thus we decided to host a virtual meeting. This is a first for most of us. We do hope that it will be a success and that it will allow us to gain experience to plan similar meetings in the future.

Although nothing will replace the wonderful experience of visiting beautiful Sri Lanka, enjoy amazing hospitality and interact with colleagues on a one to one basis, it is our aim to provide continuity to the work done by us all to promote teaching and training.

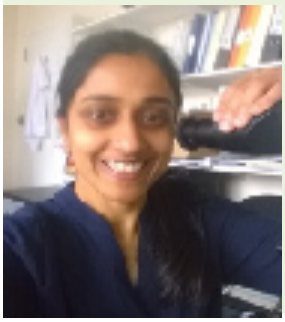
I want to thank the speakers both from Sri Lanka and the United Kingdom, the organising committee in Sri Lanka and all my colleagues at the BDIAP for all the support that has enabled us to plan and hopefully to conduct a successful meeting.

FACULTY OF GUEST SPEAKERS

Dr. Eduardo Calonje
Consultant Dermatopathologist, Lead in Dermatopathology,
St. John's Institute of Dermatopathology, London, UK.
Member, WHO Consensus Group -Classification of Cutaneous and Soft tissue Neoplasia

Dr. Stefan Dojcinov
Department of Cellular Pathology, University Hospital of Wales
Lead Pathologist - All Wales Lymphoma Panel;
Haematopathology Subspecialty Adviser, Royal College of Pathologists, UK;
Secretary, British Lymphoma Pathology Group

Prof. Maria Calaminici
Consultant Haematopathologist, Barts Health NHS Trust, UK;
Hon. Professor of Haematopathology, Barts Cancer Institute;
National Lead, EQA-Haematopathology,
British Lymphoma Pathology Group



Dr. Ula Mahadeva
Consultant Histo/Cytopathologist, Guy's & St Thomas' NHS Foundation Trust, London, UK;
Honorary Senior Clinical Lecturer, King's College London;
Histopathology Lead for the Hospital for Tropical Diseases, London

FACULTY OF GUEST SPEAKERS

Prof. Chandu de Silva
Chair and Senior Professor of Pathology, Department of Pathology, Faculty of Medicine,
University of Colombo, Sri Lanka

Dr. Cherine Sosai
Consultant Histopathologist,
Colombo South Teaching Hospital,
Kalubowila, Sri Lanka

Dr. Harshima Wijesinghe
Senior Lecturer and Consultant Histopathologist,
Faculty of Medicine,
University of Colombo, Sri Lanka

PROGRAMME

Day 01 **15th October 2020**		
9.00 am - 9.30 am	Welcome speech and introduction of speakers by the President of the College of Pathologists of Sri Lanka	
9.30 am -10.00 am	Clinical and microscopic correlation of skin lesions	Dr. Eduardo Calonje
10.00 am-10.30 am	Approach to skin related soft tissue tumours	Dr. Eduardo Calonje
10.30 am-11.00 am	Approach to skin related vascular tumours	Dr. Eduardo Calonje
11.00 am-11.30 am	Panniculitis; the histopathologist's role	Dr. Eduardo Calonje
11.30 am-12.00 pm	Dermatopathology - Case discussions	Dr. Eduardo Calonje
12.00 pm-12.30 pm	Question time for Dr. Eduardo Calonje	
12.30 pm-1.00pm	Lunch Break	
1.00 pm -1.30 pm	Naevi vs. Melanoma; diagnostic approach	Dr. Eduardo Calonje
1.30 pm -2.00 pm	Difficult melanomas	Dr. Eduardo Calonje
2.00 pm -2.30 pm	Diagnosing cutaneous lymphomas, the histopathologist's dilemma	Dr. Eduardo Calonje
2.30 pm – 3.00 pm	Pitfalls in the diagnosis of mycosis fungoides	Dr. Eduardo Calonje
3.00 pm - 3.30 pm	Approach to granulomatous inflammation in the skin; a Sri Lankan perspective	Dr.Harshima Wijesinghe
3.30 pm -4.00 pm	Diagnostic utility of cytopathology in Sri Lanka; case based discussion	Dr. Cherine Sosai

Day 02 **16th October 2020**		
8.30 am -9.00 am	Pitfalls in respiratory tract cytology	Dr. Ula Mahadeva
9.00 am -9.30 am	Diagnostic approach to urine cytology	Dr. Ula Mahadeva
9.30 am-10.00 am	Case-based discussion on glandular neoplasia in Pap smears of the uterine cervix	Dr. Ula Mahadeva
10.00 am-10.30 am	Case-based discussion on infectious disease cytopathology	Dr. Ula Mahadeva
10.30 am-11.00 am	Fungal diagnostics for the histopathologist	Dr. Ula Mahadeva
11.00 am-11.30 am	Helminth diagnostics for the histopathologist	Dr. Ula Mahadeva
11.30 am-12.00 pm	An update on salivary gland cytology including implications of the recent update of the 2017 WHO salivary gland tumours on cytology	Dr. Ula Mahadeva
12.00 pm - 12.30 pm	Pitfalls in effusion cytology	Dr. Ula Mahadeva
12.30 pm-1.00 pm	Lunch Break	
1.00 pm -1.30 pm	Approach to histopathological assessment of lymph nodes	Prof.Marie Calaminici
1.30 pm -2.00 pm	The 2016 revision of the World Health Organization classification of lymphoid neoplasms; an overview	Prof.Marie Calaminici
2.00 pm -2.30 pm	Approach to the diagnosis of DLBCL with current concepts	Prof.Marie Calaminici
2.30 pm – 3.00 pm	Double hit lymphoma/Gray zone lymphoma	Prof.Marie Calaminici
3.00 pm - 3.30 pm	Gastro intestinal lymphoma and the differential diagnosis	Prof.Marie Calaminici
3.30 pm -4.00 pm	Case discussion –lymphoproliferative diseases	Prof.Marie Calaminici

Day 03 **17th October 2020**		
8.00 am -9.30 am	Research presentation session	
9.30 am -10.00 am	Mycoses Fungoides - the Sri Lankan perspective. Is it a different cutaneous lymphoma or an inflammatory disorder?	Prof. Chandu de Silva
10.00 am-10.30 am	Infective and other reactive lympho-proliferative diseases	Dr. Stefan Dojcinov
10.30 am-11.00 am	Diagnostic pitfalls in histopathology of lymphoma	Dr. Stefan Dojcinov
11.00 am-11.30 am	Approach to low grade lymphomas	Dr. Stefan Dojcinov
11.30 am-12.00 pm	Mantle cell lymphoma: update on diagnosis, risk-stratification, and management.	Dr. Stefan Dojcinov
12.00 am-12.30 pm	Nodal and splenic marginal zone lymphoma; a case oriented session	Dr. Stefan Dojcinov
12.30 pm - 1.00 pm	Question time for Dr. Stefan Dojcinov	
1.00 pm-1.30 pm	Lunch Break	
1.30 pm -2.00 pm	Update on Hodgkin lymphoma and EBV related lymphoproliferative disease	Dr. Stefan Dojcinov
2.00 pm -2.30 pm	Diagnosing and classifying lymphoma; a panel discussion	Dr. Stefan Dojcinov & Prof. Marie Calaminici
2.30 pm -3.00 pm	Case discussion –lymphoproliferative diseases	Dr. Stefan Dojcinov
3.00 pm – 3.30 pm	Introduction to EQA for Lymphoma	Dr. Stefan Dojcinov & Prof. Marie Calaminici
3.30 pm - 4.00 pm	Vote of Thanks	

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	Fully Automated SMART Microtome (Tissue –Tek Autosection) https://www.sakuraus.com/Products/Microtomy/Tissue-Tek-AutoSection-Automated.html
	Consistent Staining Quality, Efficiency and Speed – Automated Slide Stainer (Prisma Plus) https://www.sakuraus.com/Products/Staining/Tissue-Tek-Prisma-

	Plus.html
	Quicker adipose Tissue Sectioning with reduced infection risk (Tissue-Tek Polar) https://www.sakura-finetek.com/en/products/Cryostat/Polar
	The world's First Fully Automated IHC Platforms https://www.biogenex.com/us/ihc-automation
	The world's Only Fully Automated FISH Platform https://www.biogenex.com/us/applications/fish

Virtual stall by Roche

	https://diagnostics.roche.com/us/en/products/systems/benchmark-ultra-system.html

ABSTRACTS

OF

RESEARCH PAPERS

LIST OF ABSTRACTS - RESEARCH PAPERS

RP 01

A study on "Non-invasive Follicular Thyroid Neoplasm with Papillary-like Nuclear Features" (NIFTP), in a Sri Lankan cohort

T. W. Wijesiri*, L.K. B. Mudduwa, T. G. Liyanage

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Introduction and objectives: Papillary carcinoma of thyroid is the commonest cancer occurring in the thyroid with an increasing incidence over the past few decades. A subset of papillary carcinomas was re-classified as "noninvasive follicular thyroid neoplasm with papillary-like nuclear features" (NIFTP) in late 2017, due to the excellent prognosis they exhibit. Identification of NIFTP is important because surgical management and follow up is similar to follicular adenoma, thus reducing the psychological burden of the patient, eliminating unnecessary exposure to radiation and economic burden to the society. This study intended to assess the prevalence and inter-observer consistency in identifying NIFTP in the study sample.

Method: This retrospective, descriptive, cross sectional study included all thyroid specimens received at our unit in 2017. Thyroid neoplasms with a potential for reclassification to NIFTP were reassessed according to the WHO criteria by two investigators who were blinded to the previous and each other's diagnoses.

Results: Out of the 256 thyroid specimens received, 74/256(28.90%) were considered to have potential to be reclassified as NIFTP. Only 5/74 (6.75%)satisfied the criteria for NIFTP. Three NIFTPs had been reported as papillary micro carcinoma and the other two as follicular variant of papillary carcinoma. Inter-observer consistency in re-classifying the 74 tumours was 94.6%, with a 100% consistency in diagnosing NIFTP. Following re-classification, the proportion of cancers in the study sample reduced to 56/256 (21.87%) from 61/256 (23.82%). The prevalence of NIFTP in the study sample was 1.95% (5/256).

Conclusion: The prevalence of NIFTP in the study sample is comparable to the Asian population. High inter-observer consistency can be obtained in recognizing NIFTP among potential lesions, with strict adherence to use WHO defined criteria.

RP 02

Clinicopathological profile of cutaneous leishmaniasis in army personnel in two Northern districts in Sri Lanka

H.D. Wijesinghe[1]*, N. Gunathilaka[2], S. Semege[3], K.P.N Pathirana[4], N. Manamperi[2], M.V.C de Silva[1], S.D Fernando[5]

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[2]*Department of Parasitology, Faculty of Medicine, University of Kelaniya, Sri Lanka*

[3]*Directorate of Army Preventive Medicine and Mental Health Services, Army Headquarters, Sri Jayawardenepura, Sri Lanka*

[4]*Army Hospital, Colombo, Sri Lanka*

[5]*Department of Parasitology, Faculty of Medicine, University of Colombo, Sri Lanka*
harshima@path.cmb.ac.lk

Introduction and objectives: *Leishmania donovani*is the causative organism for cutaneous leishmaniasis(CL) in Sri Lanka. This study describes the clinicopathological features of CL among army personnel serving in Kilinochchi and Mullativu districts.

Methodology: In this collaborative cross-sectional study the histopathology of 50 cases of CL confirmed by at least two methods (slit skin smear, lesion aspirate, tissue impression, histology) were reviewed. Parasitic load was assessed semi-quantitatively using Ridley's Parasitic Index. Histological features were correlated with clinical presentation and organism load by chi-square analysis.

Results: Majority(86.3%; n=44) presented with a single lesion mostly in the upper limb (69.4%). Lesion types included papule(34.7%),nodule(32.7%) and ulcer(30.6%). Evolution time of lesions averaged 31.55 weeks. Epidermal changes were observed in 49 and included hyperkeratosis(90.0%; n=45),acanthosis(44.0%; n=22),atrophy(34.0%;n=17) and interface change(66%;n=33). Dermal changes were seen in all and characterized by a lympho-histioplasmacytic infiltrate of variable intensity with ill-formed granuloma in 19(38%) and well-formed epithelioid granulomas in 22 (44%). Focal necrosis was present in 10(20%), four of which showed well-formed granuloma. Leishmania amastigote forms were observed in 88%(n=44). Transepidermal elimination(*P*=0.025), granuloma(*P*=0.027) formation and type of lesion(*P*=0.034), but not necrosis*(P=0.628*) were significantly associated with the organism load, with granuloma formation being associated with reduction in organism load.

Discussion: Inflammatory infiltrates were characterized by macrophage predominance without prominent necrosis. Well-formed granulomata were associated with a reduction in organisms suggesting that macrophage activation is more important than necrosis in parasite elimination in *L. donovani* infection.

Conclusion: Three histopathological patterns associated with organism load were identified in lesions of CL; diffuse lymphohistioplasmacytic infiltrate, ill-defined granuloma and well-formed granuloma

RP 03

An audit on hepatocellular carcinoma in surgically resected specimens at a tertiary care center in Sri Lanka

K. G. H Silva*, M. Amarasinghe, M. P. N. J. K Manchanayake, M. Bopagoda, J. Hewavisenthi

Department of Pathology, Faculty of Medicine, University of Kelaniya, Sri Lanka
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Introduction: Hepato-cellular carcinoma(HCC) is the sixth commonest cancer and the fourth leading cause of cancer-related deaths worldwide. 652 HCC patients presented to the Surgical Unit-University of Kelaniya, between 2012-2019. Approximately16% were offered liver resections or transplants.

Objective: To document the pathological features of surgically resected HCCs in a tertiary care center in Sri Lanka.

Methodology: An audit of 58 HCC resections received by the Department of Pathology, University of Kelaniya between 2011 June and 2020 March was undertaken. Data on tumour size, number, differentiation, Edmonson Steiner grade, vascular invasion and background liver features were retrieved from the department data base and analyzed.

Results: 50/58 HCC patients were male(86.2%). The mean age was 59.3years(range10-82years).The resected HCCs ranged in size from 7 to 180mm.[≤2cm:9/58(15.5%), 2-5cm :19/58(32.8%),>5cm:30/58(51.7%)]. There were 9/58(15.5%) multifocal tumours. Vascular invasion was observed in 16/58(27.6%).Majority were (42/58:72.4%) moderately differentiated. 15/58 (25.8%)were well differentiated and 1/58(1.7%) was a poorly differentiated malignancy. Edmondson-Steiner grade 2 was seen in 67.2%(39/58). A fibrolamellar-HCC, a combined hepatocellular cholangiocarcinoma, a steatohepatitic-HCC and three tumours with clear cell features were included in this series. Nearly half of the resected malignancies were in tumour stage1; T1:34/58(58.5%), T2:27.6%(16/58), T3:12%(7/58), T4:1.7%(1/58). (AJCC 8 staging).

33/58 (56.9%) HCC had established cirrhosis.09/58(24.1%) had background fatty liver disease. 16/58(27.6%) did not show any background liver disease in the resection specimen.

Discussion and Conclusion: As there are no published reports pertaining to this area in our country, this audit endeavors to fill this gap and provide an overview of the pathological features of resected HCCs in Sri Lanka.

RP 04

Identifying thyroid follicular neoplasms which need lobectomy; the value of Bethesda category 4

A.Kankanamge*, T.G.Liyanage, L.K.B.Mudduwa

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ayomi.kankanamge@gmail.com

Introduction & objective: Thyroid follicular proliferations (TFPs) identified on cytology can be either follicular lesions of undetermined significance; Bethesda category3 (BC3) or follicular neoplasms and lesions suspicious for a follicular neoplasm; Bethesda category4 (BC4). The purpose of categorizing to BC4 is to identify a thyroid nodule that might be a follicular carcinoma and triage it for surgical lobectomy. This study was designed to determine the predictive value of categorizing FPs toBC4 in deciding on lobectomy for cytologically identified TFPs.

Methodology: This retrospective study included all patients with a TFP identified on cytology, and had a subsequent histological diagnosis, at a tertiary-care hospital, over a period of two years. TFPs were categorized into either BC3 or BC4 on cytology, according to the Bethesda system. By correlating with histopathology, sensitivity, specificity and positive(PPV) and negative predictive values(NPV)for BC4 in identifying neoplastic TFPs and implied risk of malignancy for BC3 and BC4 were calculated.

Results: A total of 52 TFPs(BC3, n=39, BC4, n=13) were included. Subsequent histology has confirmed 18 neoplastic and 34 non-neoplastic TFPs. Sensitivity and specificity of BC4 in identifying neoplastic TFPs were 66.66% and 97.05% respectively. PPV and NPV of BC4 were 92.05% and 84.62% respectively. Implied risk of malignancy for BC3 and BC4 were 5.12% and 15.38% respectively.

Discussion and Conclusions: BC4 has sufficient predictability in identifying TFPs that need thyroid lobectomy to triage for follicular carcinoma. The BC3 and BC4 carry an implied risk of malignancy comparable to the expected values given in Bethesda system.

RP 05

A clinical audit on Pap smear test for screening of cervical cancer

L.D.S. De Silva[1]*, R. Gunawardene[1], E.H. Siriweera[1], R. Waduge[1], P.M.R. Deniyegedara[2], S. Wijetunge[1]

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[2]*Department of Pathology, Teaching Hospital, Peradeniya, Sri Lanka*

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Introduction and objectives: Cervical cancer was second most common cancer among sri lankan females until the year 2018. Pap test is performed to screen women with premalignant lesions. The objective of this study is to determine diagnostic rates of each main Bethesda diagnostic category in pap smears examined at Teaching Hospital, Peradeniya (THP).

Methodology: This was carried out as a retrospective cross-sectional study. The pap smears received from gynecological clinics (evaluated by pathologists) and well women clinics (initially assessed by cytoscreener) from 1st January 2017 to 31st December 2019 were included. The data was archived from request forms and diagnostic rates of each category were calculated.

Results: 1148 of satisfactory smears were reviewed from clinics at THP, 984(70.49%) were NILM, 38(2.7%) were LSIL, 3(0.21%) were HSIL and 15(1.07%) had features of glandular atypia. None were diagnosed with a malignancy. ASCUS was diagnosed in 105(7.5%) and ASC-H in 3(0.21%) cases. ASC/SIL ratio was 2.8.

9337 satisfactory cases from all MOH clinics were reviewed, 9204(95.74%) were NILM, 49 (0.51%) were LSIL, 3 (0.03%) were HSIL and 5 (0.05%) were found to have glandular atypia. One case of SCC was reported. ASCUS was diagnosed in 71(0.74%) while 4(0.04%) showed ASC-H. ASC/SIL ratio was 1.44.

Discussion: When Bethesda classification is used (CAP) median rate of LSIL diagnosis is 2.5% and HSIL diagnosis is 0.5% which are not exceeded in both MOH and hospital setting. Accordingly, ASC/SIL ratio of 1.5 should be maintained. However, in our hospital clinic setting ASC/SIL ratio is 2.8; almost approaching the ratio of high-risk population due to higher rates of ASCUS.

Conclusion: Diagnosis of ASCUS exceeds the accepted rate in our hospital setting and the exact cause needs to be determined and intervened

RP 06

Applicability of oesophageal markers to determine oeophageal origin of columnar metaplasia in the Gastro-oesophageal junction biopsies

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Introduction: Determining glandular metaplasia of oesophageal origin in gastro-oesophageal junctional (GOJ) biopsies is problematic. This carries a clinical significance as oesophageal intestinal metaplasia (IM) has a higher risk of malignancy than gastric intestinal metaplasia. Identification of oesophageal mucosal/submucosal glands or their ducts considered as traditional indicators of metaplastic mucosa of oesophageal origin has low sensitivity. The aim of this study is to determine if inclusion of new oesophageal criteria with immunohistochemistry (IHC) would improve detection of glandular metaplasia of oesophageal origin in GOJ biopsies.

Methodology: Study population included 42 patients with dyspeptic symptoms and endoscopically abnormal GOJ, histologically confirmed to have glandular tissue. All biopsies were stained with haematoxylin and eosin (H&E), 34βE12 and P63 to highlight residual squamous phenotypes, namely residual squamous islands (SI) and multilayered epithelium (MLE).

Results: Use of traditional esophageal indicators with H&E stain demonstrated oesophageal origin of glandular tissue in 4 cases (7.1%). Addition of SI and MLE increased the detection rate to 26.8% (n=15, p=0.01). Addition of IHC further increased the detection rate to 80.4% (n=37). Use of IHC particularly increased the detection rate of MLE from 8 (17.4%) with H & E only to 20 (43.5% p <0.001) with IHC.

Discussion and conclusion: Oesophageal origin of glandular metaplasia could be identified in 80.4% of biopsies with addition of SI and MLE detected by IHC, to traditional oesophageal indicators. The use of IHC routinely in GOJ biopsies is not recommended although it can be used when indicated. Addition of SI and MLE with IHC when necessary increases the sensitivity of determining metaplastic glandular tissue of oesophageal origin in GOJ biopsies.

RP 07

Prevalence and clinical manifestations of different histological classes of lupus nephritis

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Introduction and Objectives: Lupus nephritis (LN) is a common complication of systemic lupus erythematosus with a wide clinical spectrum and diverse histological features. This study was done to determine the prevalence and clinical manifestations of different histological classes of LN in the renal biopsies received at a tertiary care center in Sri Lanka.

Methodology: This is a retrospective-descriptive study of renal biopsies with a histological diagnosis of SLE (n=92), received at the Department of Pathology, Faculty of Medicine, University of Peradeniya in 2018. Clinico-pathological data were extracted from the archives.

Results: There were 56 (60.8%),15(16.3%),5(5.4%),3(3.3%) and 2(2.2%) cases categorized as class IV, II, III, VI and V respectively. Four patients (4.3%) showed II+III lesions, 3(3.3%) were II+V, 3(3.3%) were III+V and 1(1.1%) was IV+V. Class IV(n=56) was the commonest group and had a mean age of 29.2years (range 11-62). There were 47 females (83.9%) and 9 males (16.1%) with class IV. Most (n=37,66.1%) presented with non-nephrotic range proteinuria (NNRP), while 35(62.5%) had microscopic haematuria (MH) and 26(46.4%) showed elevated serum creatinine (SC) levels. Second commonest class was II (n=15), where all patients were female (100%) with a mean age of 27.8years (range 12-42). Nine patients (60%) showed NNRP, 9 MH (60%) and 4 elevated SC (26.7%). All class III patients (n=5) were females (100%) and mean age was 31.5years (range 27-39). All had NNRP and MH (100%). SC was elevated in 1 (20%).

Discussion and conclusions: Common classes of lupus nephritis in this study population were class IV, II and III respectively. Most of the patients in all groups had non-nephrotic range proteinuria and microscopic haematuria. A lesser percentage had elevated serum creatinine.

RP 08

Immunohistochemical assessment of PTEN expression in ER positive breast cancers

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Introduction and objectives: Although Estrogen Receptor (ER) positivity is a good prognostic factor in breast carcinoma (BC), a subset of patients have poor disease free survival (DFS). Mutation in Phosphatase and tensin homologue deleted on chromosome ten (PTEN), is identified as a poor prognostic feature in BC. This study was designed to find out the impact of lost or poor PTEN expression on ER positive breast carcinoma, in terms of recognized prognostic factors and survival.

Methodology: This was a retrospective, cohort study. BC tissue blocks submitted to our unit from 2006 to 2012 were selected. Patients who had ER positive BC, undergone mastectomy, treated with tamoxifen were selected from the laboratory data, which also included the follow up data. All clinico-pathological parameters, DFS and overall survival (OS) were analysed against lost or poor PTEN expression. Clinico-pathological features were compared using Chi-square test. Kaplan-Meier model with log-rank test was used for the survival analysis.

Results: A total of 130 BC patients satisfied the inclusion criteria. PTEN expression was lost or poor in 82.3%(n=107) patients. PTEN expression had a positive association with the level of ER expression (P=0.011) and a negative association with Nottingham prognostic index (NPI)(P=0.045) and pathological stage (P<0.048). Only 12.1%(n=16) patients had recurrences and 7.69%(n=10)had died over 51 months of mean follow up. There was no significant association between PTEN expression and survival.

Conclusion: This study showed that there is a statistically significant association between lost or poor PTEN expression and low ER expression, high NPI and stage 3 tumours in ER positive BC. Further studies including larger study sample with a longer follow up are recommended to find out the association of PTEN with the survival in ER positive BC.

RP 09

Prevalence of native kidney diseases according to age and their common clinical manifestations:Study at a tertiary care centre in Sri Lanka

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Introduction and Objectives: When examining a renal biopsy, age is an important factor as some diseases occur more frequently in patients of certain age groups. Objective of this study was to find the common diseases in each age group with their most frequent clinical manifestations.

Methodology: A retrospective study was done by retrieving all native renal biopsies (682) received in 2018 at the Department of Pathology, Faculty of Medicine, University of Peradeniya. Clinico-pathological data were extracted from the request forms and histopathology reports. Four age-groups were allocated: I-children (0-10years,n=29), II-adolescents (>10-19years,n=72), III-adults (>19-50years,n=375)and IV-adults (>50years,n=206).

Results: Of the biopsied subjects, the commonest native kidney disease in children was acute diffuse proliferative glomerulonephritis (ADPGN) seen in 15 (51.7%) followed by minimal change disease (MCD) in 7(24.1%). Most children with ADPGN presented with nephritic-syndrome (n=7,46.6%) while 6(40%) presented with a nephrotic-nephritic picture. MCD was the commonest disease among adolescents which comprised 25 (34.7%) out of 72 biopsies and the majority (n=19,76%) presented with nephrotic syndrome (NS). Second most common cause was lupus nephritis (LN) seen in 22 (30.5%). In the group III, the commonest disease was LN (n=62,16.5%) and most patients (n=37,59.7%) had non-nephrotic range proteinuria (NNRP) while 31(50%) had elevated serum creatinine (SC). Second commonest disease was focal segmental glomerulosclerosis (FSGS) seen in 42 (11.2%). Diabetic nephropathy (DN) was seen in the majority of biopsies (n=60,29.1%) of the group IV with most having elevated SC (n=45,75%) and NNRP (n=43,71.7%), followed by FSGS (n=20,9.7%).

Discussion and conclusions: Most frequent diseases in groups I to IV were ADPGN, MCD, LN and DN respectively. Children and adolescents presented with nephritic or nephrotic syndrome, while most adults had NNRP and elevated SC. It should be taken into consideration that most children with typical nephritic and nephrotic syndrome do not undergo biopsy.

RP 10

Commonly associated disease conditions with focal segmental glomerulosclerosis in renal biopsies

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Introduction and Objectives: Focal segmental glomerulosclerosis (FSGS) is a commonly encountered entity in renal biopsies, which could be primary (idiopathic) or secondary to a variety of clinical conditions which are difficult to differentiate histologically. The objective of this study was to find the commonly associated diseases of FSGS in the biopsies received at this center.

Methodology: This is a retrospective descriptive study of renal biopsies received at the Department of Pathology, Faculty of Medicine, University of Peradeniya in 2018, with a histological diagnosis of FSGS (n=67). Clinico-pathological data, histological findings, immunofluorescence study results (IgG, IgA, IgM and C3), were extracted from archives. Thirtyfour cases (50.75%) had associated pre-existing diseases or diseases diagnosed at the time of current biopsy.

Results: Nine (13.43%) biopsies with FSGS were of diagnosed patients with hypertension (HT), out of which two were young hypertensives. Seven patients (10.45%) had diabetes mellitus (DM) and three (4.48%) had both DM and HT. There were four patients (5.97%) with IgA nephropathy. Membranous nephropathy was seen in four biopsies (5.97%) of which two were from previously diagnosed patients. Features of mesangioproliferative glomerulonephritis was present in four biopsies (5.97%) and one was from a previously diagnosed patient. Three patients with thyroid follicular carcinoma, tuberculosis and history of childhood nephrotic syndrome also showed FSGS.

Discussion and conclusions: 49.25% patients (n=33) did not have an associated cause to explain the FSGS. Entities commonly associated with rest of the patients (n=34, 50.75%) were hypertension (13.43%), DM (10.45%), IgA nephropathy (5.97%), membranous nephropathy (5.97%) and mesangioproliferative glomerulonephritis (5.97%). Both DM and HT were seen in 4.48%. Secondary FSGS may be due to healed previous lesions of glomerulonephritis or a reduction of functional nephrons in advanced chronic renal disease resulting in increased intra-glomerular pressure in viable glomeruli while some may be co-incidental pathologies.

RP 11

Pathology based cancer frequency data: An audit in a tertiary care centre

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Introduction: Pathology based cancer surveillance is a rich source of information to study prevalence and trends in cancers. This study was conducted to assess the prevalence rates of common malignancies diagnosed in a tertiary care centre.

Methodology: This was a retrospective study, using data bases, maintained at the Department of Pathology, Faculty of Medicine, University of Peradeniya from 2013 to 2019. Data on primary malignancies were extracted and analyzed.

Results: A total of 3213 malignancies were diagnosed during the study period of which 69.56% (n=2235) were among females and 30.4% (n=978) among males. The malignancies of highest prevalence were breast (19.7%, n=633), colo-rectal (18.3%, n=588), oesophageal (11.8%, n=381), thyroid (12.4%, n=288) and endometrium (6%, n=191) cancers. Commonest five malignancies among females were breast (28.2%, n=631),colo-rectal (15.4%, n=345) thyroid (10.5%, n=235) oesophageal(10%, n=224) and endometrial (8.5%, n=189) and among males, colo-rectal(24.9%, n=243), esophageal(16% n=157) lymphoma(6.4%, n=63), stomach (6%, n=61) and prostate(5.5%, n=54). Most malignancies (29.6% n=951) as well as most breast cancers (29%, n=183) were seen between 60-69years.

Discussion: Cancer prevalence in studied centre is not entirely comparable with national statistics. The centre where the study was carried out had only general surgical and gynecological units and oral, lung, genitourinary samples were not received. Breast cancer was the most prevalent overall and among females reflecting national statistics. According to national statistics oral and lung are the most prevalent cancers among males.

Conclusions: Cancer frequency among females is more than twice that of males in this centre. Commonest malignancies diagnosed were breast and colo-rectum in females and colo-rectum and oesophagus in males.

RP 12

An Audit on thyroid cancer prevalence by histologic Type: In a tertiary care centre in Sri Lanka

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Introduction and objectives: Thyroid cancer is the 3rd commonest cancer among females in Sri Lanka. Papillary, follicular, medullary, anaplastic carcinomas and lymphomas are the five main types of thyroid cancers. Objective of this study was to assess the prevalence rate of each histologic type of thyroid carcinoma.

Methodology: This is a retrospective study of primary thyroid cancers diagnosed at the Department of Pathology, Faculty of Medicine, University of Peradeniya from 2013 to 2019.Clinico-pathological data were extracted from the archives.

Results: A total of 288 thyroid malignancies were diagnosed during the study period of which 81.6% (n=235) were diagnosed among females and 18.4% (n=53) among males.

The commonest histological type was papillary carcinoma (75.7%, n=218), including conventional papillary carcinoma (72%, n=157) papillary micro-carcinoma (24.7%, n=54), follicular variant (2.8%, n=6) and oncocytic variant of papillary carcinoma (0.4%, n=1).Of conventional papillary carcinoma 12 were multifocal. The next common types were follicular carcinoma (23%, n=50) and medullary carcinoma (4%, n=9). There were 5 (1.7%) primary thyroid lymphomas. Over the study period prevalence of all main histological types of thyroid cancers remained the same. However, frequency of papillary microcarcinoma and multifocal papillary carcinomas had increased from 9% to 22% and 0% to 6.5% respectively from 2013 to 2019.

Discussion and conclusion: Significant rise in multifocal papillary carcinomas and papillary microcarcinomas highlights the requirement for adequate sampling of thyroid specimens, even when a malignancy is clinically not suspected.

RP 13

Clinicopathological spectrum of acute diffuse endocapillary proliferative glomerulonephritis in renal biopsies; A single centre experience

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Introduction and Objectives: Acute diffuse endocapillary proliferative glomerulonephritis (ADEPGN) is a common childhood self-limiting disease which usually do not require biopsy. The objective of this study was to describe the clinico-pathological spectrum of ADEPGN in renal biopsies received in this center.

Methodology: This is a retrospective-descriptive study of renal biopsies with a histological diagnosis of ADEPGN (n=63), received at a tertiary care center in 2018. Clinico-pathological data were extracted from the archives.

Results: Out of 1225 renal biopsies received, 63 (5.1%) had a diagnosis of ADEPGN. There were 36 males (57.1%). The mean age was 33.8years (range 3-78 years). 24(38.1%) were children and 39(61.9%) were adults. 23 patients (36.5%) presented with nephritic-syndrome (NS) while 13(20.6%) showed nephrotic-nephritic mixed-picture (NNMP). Most children(n=13,54.2%) presented with NS while NNMP was seen in 8(33.3%). In adults, NS was seen in 10(25.6%) and NNMP in 5(12.8%). Sore throat and skin sepsis were documented in 5(7.9%) and 15(23.8%) patients, respectively. Elevated serum-creatinine and high ASOT were noted in 51(80.9%) and 11(17.4%) respectively. Histology revealed cellular crescents in 11(17.4%) of which 5(45.4%) patients presented with NNMP. 6(54.4%) patients were adults. Tubular injury was seen in 19(30.1%) of which most(n=9,47.4%) presented with NNMP. 11(57.9%) were children. Tubulitis was present in 11(17.4%) cases. 15 children and 19 adults (34 patients,53.9%) showed classic uncomplicated-ADEPGN. Immunofluorescence was performed in 30 cases, which showed IgG-positivity and C3-positivity in 9(14.2%) and 27(42.8%) respectively. Both were positive in 8(12.6%) and negative in 3(4.8%) cases.

Discussion and conclusions: Most children and adults presented with NS while a lesser number had NNMP. This result was similar to another study (Wijewickrama ES et al.) from Sri Lanka. Cellular crescents and tubular injury were found in patients with NNMP than NS. C3-positivity could be because biopsies are performed during latter phase of the disease.

RP 14

Assessing the clinicopathological characteristics of patients with oxalate nephropathy in native and allograft renal biopsies

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Introduction and objectives: Deposition of oxalate crystals in the kidney is a recognized cause of renal damage. This study identifies the prevalence of oxalate deposits (OD) in native and transplant renal biopsies encountered in routine practice.

Methodology: All renal biopsies received at the Department of Pathology, Faculty of Medicine, Colombo from January 2015 - December 2016 were included in the study. Biopsies with incomplete clinical details were excluded. The H&E stained slides of 462 biopsies were examined under polarized light for characteristic oxalate deposits. Chi-squared test was used for statistical analysis.

Results: The sampled comprised 325 (70.3%) native biopsies while the rest were transplant biopsies. Age of the study population ranged from 11- 92 years (mean 41.37). Diabetes mellitus was present in 105 (24.7%) and hypertension in 214 (49.19%). 263 patients (58.9%) had impaired renal functions. OD were present in 12.1% (56/462) of total biopsies. A statistically significant higher prevalence of OD was noted in patients with diabetes, hypertension and impaired renal functions compared to patients with none of the above. ($P<0.0001$). Out of 107 patients with no hypertension or diabetes and normal renal functions OD was seen only in one. There was no statistically significant difference in prevalence of OD in patients with native/transplant kidneys, early (transplant within < 3 months)/late transplants, younger(<60-years)/older patients or male/female ($P>0.05$)

Discussion and conclusion: The prevalence of OD in our routine biopsies was higher than in similar studies (12.1% vs 4%). Recognized mechanisms for the above findings include precipitation of endogenous oxalates in acid urine and increased urinary calcium excretion. High prevalence of diabetes and hypertension in the study population may have contributed to the observed higher prevalence of OD. The contribution of oxalates to renal damage should not be under-estimated.

RP 15

Spectrum of mature B cells lymphoid neoplasms with peripheral blood involvement: Amorphologic and flowcytometric study

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Introduction: The mature B cell lymphoid neoplasms can be segregated into disorders with primary manifestation in blood and bone marrow i.e. chronic lymphocytic leukemia and hairy cell leukemia compared with mature neoplasms that predominate in lymph node and other extramedullary sites but may involve blood or bone marrow as secondary event (B cell lymphoma). The aim of the study was to assess peripheral blood and bone marrow involvement in mature B cell lymphoid neoplasms.

Material and Methods: 232 cases of mature B cell lymphoid neoplasm reported from January 2014 to December 2016 were included in the study. Peripheral blood, bone marrow (BM) aspiration and trephine biopsies, IHC of nodal/extranodal tissue received, and immunophenotyping by flow-cytometry were reviewed in all the cases for the origin of atypical cells.

Results: Bone marrow trephine biopsies showed lymphomatous involvement in 150(68.9%) cases. PB was involved in 103 cases and all these cases had bone marrow involvement. Atypical lymphoid cells were present in all the cases of CLL/SLL (n= 63), HCL (n=4) and LPL (n=2). Among lymphomas highest incidence of PB involvement was present in MCL (68%). Low incidence of PB involvement was seen in DLBCL and no involvement in SMZL, Nodal MZL, Plasmablastic lymphoma, MALT lymphoma and Burkitt's lymphoma. TLC and atypical lymphoid cells had a significant correlation ($p<0.001$) with percentage involvement in BM specimens.

Conclusion: In our study peripheral blood was involved in approximately 2/3rd cases of mature B cell neoplasm with BM involvement. This high incidence of PB involvement may be due to predominance of CLL/SLL cases and late presentation of our patients.

ABSTRACTS

OF

CASE REPORTS

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CR 01

Diagnosing genital tuberculosis when investigating secondary subfertility

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Introduction: Tuberculosis (TB) is an infectious disease caused by the bacterium *Mycobacterium tuberculosis*. Genital tuberculosis (GTB) represents 15-20% of extrapulmonary TB. Worldwide prevalence of GTB in sub fertile women is around 5-10%.

Case Report: A 35-year-old mother of one child, presented with secondary subfertility and chronic lower abdominal pain. Laparoscopy revealed extensive adhesions in bilateral adnexal regions and adhesion of uterus to the bowel. Chest X-ray, ESR or Mantoux tests were not performed. She underwent a total-abdominal-hysterectomy and bilateral salpingo-oophorectomy. Uterus and cervix were grossly unremarkable. Fallopian tubes and ovaries were adhered together. Histopathological-examination of endometrium, myometrium, ovaries and fallopian-tubes revealed scattered granulomata with extensive caseous necrosis. Even though special-stains for acid-fast-bacilli (AFB) and fungi were negative, the presence of characteristic caseating granulomata made tuberculosis the most likely diagnosis.

Discussion: GTB mainly affects women in the reproductive age group and is usually a silent disease. The most common presentation is subfertility. Infection is acquired by haematogenous or lymphatic spread from an extragenital site and is almost never a primary site of infection. GTB most frequently involves fallopian tubes (90-100%), endometrium (50-60%) and ovaries (30%). Main mechanism of subfertility is tubal dysfunction and obstruction. Recognition of GTB could be difficult in endometrial biopsies because of inadequate granuloma formation due to cyclic shedding of endometrium. Hence, the best time for detection is late secretory phase. Special stains for AFB are often negative and it is difficult to yield culture positivity. The most reliable test is TB-PCR.

Conclusion: Tuberculosis should be considered in the differential diagnosis of subfertility, when there is granulomatous inflammation, especially in tuberculosis endemic areas.

CR 02

Amyloid containing uterine and ovarian leiomyomata: Two rare cases

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Introduction: Few tumours, such as medullary carcinomas of thyroid are known to have amyloid in the stroma. However, amyloid deposition in a leiomyoma is extremely rare and around 30 cases have been reported worldwide

Case reports:

Case one - A 56-year-old woman underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy for uterine fibroids. Gross examination showed intra mural and right ovarian solid white lesions resembling leiomyomata

Case two - A 50-year-old woman underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy for uterine fibroids. Gross examination showed a large solid white lesion.

Histology of both uterine lesions and the right ovarian lesion in case one, revealed leiomyomata which were confirmed by positive SMA staining. All leiomyomas showed extracellar pink hyaline material resembling amyloid. The congo red stain revealed salmon pink colour and apple green birefringence with polarization, confirming the presence of amyloid. The rest of the histology of both patients was unremarkable.

Discussion: Presence of amyloid in leiomyoma is an extremely rare and an incidental finding. Further investigations in both patients, did not reveal evidence of a systemic cause for amyloidosis.

CR 03

Tuberculosis salpingitis in a young girl mimicking an ovarian neoplasm

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Introduction: Genital **t**uberculosis (GTB) is not uncommon in Sri Lanka where this disease is endemic and can have varied presentations. GTB almost always occurs secondary to primary tuberculosis elsewhere in the body and spreads via hematogenous or lymphatic route. We report a case of tuberculous salpingitis in a young girl, mimicking a tumour clinically and radiologically.

Case report: A 17-year-old girl presented with abdominal distension for ten months. Abdominal ultrasound scan demonstrated gross ascites and a right sided adnexal mass. Serum CA-125 was 471u/ml. Chest X-ray was normal. A neoplasm was suspected and the patient underwent right salpingo-oophorectomy. A mass of tissue measuring 50mm in diameter was received for histological assessment. On sectioning multiple whitish nodules were noted. The tube was not separately identified. Pieces of ovarian tissue (10mm and 20mm in diameter) were separately identified. Histology of these whitish nodules revealed heavily inflamed fallopian tube infiltrated by lymphocytes, plasma cells and histiocytes. Scattered caseating granulomata, extensive thickening and destruction of the tubal mucosa were evident. Ziehl Neelson stain was negative for acid fast bacilli. A diagnosis of granulomatous salpingitis favoring tuberculosis was made. A Mantoux test performed later became reactive.

Discussion and Conclusion: Pelvic tuberculosis should be included in the differential diagnosis in a patient with an adnexal mass in endemic areas. Demonstration of acid-fast bacilli is not always possible in tissue sections.

CR 04

Recurrent perivascular epitheliod cell tumor in neck with lymph node metastases: A rare occurrence

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Introduction: Perivascular epithelioid cell tumours (PEComas) are mesenchymal neoplasms showing myomelanocytic differentiation. They usually display a benign course and are common in females with a median age of 46 years. Angiomyolipoma, lymphangioleiomyomatosis and "sugar" tumour of lung are common examples.

Case report: A 17-year old man presented with an incidentally detected right sided upper cervical lump. Fine needle aspiration cytology revealed a predominant population of large cells with vesicular nuclei, prominent macronucleoli and clear to eosinophilic cytoplasm. Excision biopsy revealed a well demarcated neoplasm measuring 1.7cm in maximum dimension and comprising sheets of similar looking epithelioid cells with prominent macronucleoli. Admixed thick walled blood vessels were noted. Mitotic figures, nuclear atypia and tumour necrosis were absent. These cells revealed cytoplasmic positivity for SMA and HMB-45. Desmin and LCA were negative. Two months later, a recurrent lump of 2.3cm in maximum dimension with similar histology was detected at the same site beneath the scar. One out of four lymph nodes dissected with the recurrent tumour revealed tumour deposits.

Discussion and Conclusion: Head and neck location, tumor recurrence and lymph node metastases are rare events in PEComas. They rarely display features of aggressive behavior such as tumour size >5cm, mitotic count >1/50hpf and coagulative tumor necrosis. Even in the absence of the above mentioned features PEComa in this case showed recurrence and lymph node metastases.

CR 05

Cutaneous peripheral T-cell lymphoma masquerading as psoriasis

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Introduction: Cutaneous T-Cell Lymphoma (CTCL) is a mimicker of psoriasis in various stages of its clinical course. Long standing immunosuppression, which is a risk factor of CTCL and also a treatment modality of psoriasis, predisposes patients to CTCL.

Case report: A 72-year-old man presented with a gradually enlarging ulcerated skin nodule in loin region over 4 years. He had psoriasis for 35 years and was treated with Methotrexate for the past 5 years. This lesion was initially similar to a psoriasis patch but was unresponsive to Methotrexate. His other skin lesions responded to treatment. Excision biopsy was a 65 mm skin ellipse with an exo-endophytic irregular, ulcerated, nodule measuring 42 mm in maximum diameter. Histology revealed a dense dermal infiltrate comprising singly scattered medium sized convoluted lymphoid cells with clear cytoplasm, in a lymphohistiocytic background extending to the subcutis. Eosinophils, plasma cells and arborizing blood vessels are also noted. Some of the atypical cells had round nuclei with prominent central nucleoli and some had nuclei with dispersed chromatin. Mitotic figures and apoptosis were prominent. Epidermotrophism, Pautrier microabscesses or lymphocytes rimming adipocytes were not present. Immunohistochemical marker (IHC) CD 3 showed diffuse strong membrane staining of the atypical cells. CD 20, CD 56, CD 2, CD 30, CD 1a and MPO showed negative results. Clinical and histological features together with IHC confirmed Peripheral T-cell Lymphoma- Not Otherwise Specified.

Discussion and Conclusion: Biopsy is indicated in skin lesions with poor response to therapy. CTCL should be suspected with immunosuppression. Clonal rearrangement of T-cell receptor genes is the confirmatory test for typing CTCL.

CR 06

Metastatic melanoma presenting as a subcutaneous nodule with complete regression of the primary lesion

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Introduction: Melanoma is a skin cancer arising from malignant transformation of melanocytes. The primary site of the tumour cannot be detected in 2 to 9% of the patients presenting with a melanoma, explained by complete regression of the primary lesion.

Case Report: A 32-year old woman presented with a gradually enlarging nodule on her lower back. Physical examination revealed a solitary, mobile, soft to firm lump which was not attached to the skin. The lesion was completely excised including the overlying skin which was unremarkable. There was a fairly circumscribed lesion within the subcutaneous fat with cut surface showing a solid brown-black tumour with focal white areas. Microscopy revealed a malignant melanoma confined to the subcutaneous fat. An area in the dermis resembling the regressed area of the primary lesion was identified. Based on the histopathological features, a diagnosis of a satellite metastatic deposit of a malignant melanoma was made. Clinical examination and radiological evaluation failed to detect a primary lesion or a secondary deposit at any other site. Three years later she presented with metastatic deposits involving scalp and the thyroid gland.

Discussion: Melanoma presenting solely as a solitary lesion involving the dermis and/or subcutaneous tissue is very rare. Identification of the regressed area gives a clue to the primary site of the tumour.

Conclusion: Presence of a solitary subcutaneous metastasis without an evident primary tumour can be explained by spontaneous regression and complete disappearance of the primary melanoma after dissemination to a secondary site.

CR 07

Primary hepatic small cell neuroendocrine carcinoma: a rare tumour

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Introduction: Primary hepatic small cell neuroendocrine carcinoma (SCNEC) is an extremely rare high-grade malignant tumour with female to male ratio of 1.4:1. The average age of occurrence is 54 with no reported risk factors.

Case report: A 42-year-old woman presented with right upper abdominal pain and loss of appetite for three-weeks. A right hepatic mass with portal vein thrombosis was seen in the abdominal CT-scan. Other liver or abdominal mass lesions, spread to blood vessels or bile ducts were not detected. Chest X-ray, colonoscopy and upper-gastrointestinal-endoscopy were normal. Liver biopsy revealed a tumour comprising sheets and nests of small cells with hyperchromatic nuclei and scanty cytoplasm. Immunostains showed diffuse positivity for CD56, synaptophysin and chromogranin. CK7 revealed dot-like cytoplasmic positivity. CK20, HepPar1, LCA and TTF1 were negative. Ki-67 index was 40%. Right hepatic lobectomy showed a tumour of 16 cm in maximum diameter. Microscopy showed non-cirrhotic liver infiltrated by a neoplasm with similar morphology to the biopsy with foci of necrosis and numerous lymphovascular emboli. The diagnosis of SCNEC was confirmed. The patient died eight-weeks after surgery following post operative complications.

Discussion: Hepatic SCNEC is an aggressive tumour with poor survival. In this case differential diagnosis of initial biopsy included lymphoma and poorly differentiated carcinoma (hepatocellular, cholangio or metastatic carcinoma). As liver is the most common site of metastasis of NECs, clinical and radiological evaluation to rule out non-hepatic origin is essential for further management of the patient

CR 08

Severe oxalate nephropathy in an infant; a case report

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Introduction: Oxalate is the ionic form of oxalic acid and is derived from various animal and plant sources. Hyperoxaluria is a state of disordered metabolism characterized by increased urinary excretion of oxalate,which is a genetically determined condition. This condition may result from increased endogenous production of oxalate by liver in primary hyperoxaluria, from increased intestinal absorption or increased intake of oxalate precursors in secondary hyperoxaluria.

Case report: A 10-month-old baby boy presented with loose stools and reduced urine output for 4 days. He was born following uneventful pregnancy with a birth weight of 3.1 kg. Weaning was recently commenced with semisolid food (mashed potatoes, eggs in small amounts) and fruits(papaya, banana).He was not given oxalate rich fruits like star fruit, biling(Averrhoa bilimbi), beet, spinach, or chocolate. The family history was negative for renal or metabolic diseases. On examination he was ill looking. Blood pressure was 86/59. Blood urea and serum creatinine were elevated.Ultrasound scan of KUB revealed enlarged, extremely echogenic kidneys. USS guided renal biopsy was performed. Microscopy revealed extensive tubular depositions of polarizingcrystals, suggestive of oxalate crystals. Tubules were extensively damaged by the crystals and most of the remaining tubules were atrophic. The interstitium was fibrosed and the glomeruli were spared. A diagnosis of oxalate nephropathy was made. Serum oxalate levels were not available. Due to the severity of the irreversible kidney damage and progressive nature of the disease, the treatment option of liver-kidney transplant was not possible. The baby was sent home for terminal home care.

Discussion: The primary hyperoxalurias are a group of rare hereditary disorders presenting with nephrocalcinosis and urolithiasis. Based on the renal pathology and early onset of advanced disease, a diagnosis of primary hyperoxaluria Type I is likely in this patient.

Conclusion: Primary hyperoxaluria should be considered in the differential diagnosis of infantile acute kidney injury.

CR 09

A rare breast tumour in a post menopausal woman

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Introduction: Invasive micropapillary carcinoma(IMPC) and pure mucinous carcinoma(MC) of breast are direct opposites in terms of biological behavior. When these components occur together it is important to identify both entities as it will impact the prognosis of the patient.

Case report: A 60-year-old woman presented with a left sided breast lump for 2 months. Ultrasonically, it was BIRADS 5. Tru cut biopsy predominantly showed pools of mucin and was diagnosed as mucinous carcinoma. Mastectomy specimen revealed a 35mm sized firm tumour in the upper outer quadrant with a glistening gelatinous cut surface.

Histology showed an invasive carcinoma with predominant pools of mucin and intervening cellular areas, composed of micropapillae lined by cells demonstrating reverse polarity. Each of these components occupied about 50% of the tumour. 13 out of 19 lymph nodes show metastatic tumour deposits exhibiting both IMPC and MC morphology. The tumour was ER andPR positive and Her2/neu negative. The Ki 67 index was 20%. EMA was not performed as reverse polarity was easily demonstrable in H&E.

Discussion and conclusion: Several similar cases were reported in the literature labelling them as mucinous micropapillary carcinoma and micropapillary variant of mucinous carcinoma, but these terms are not clearly defined by WHO. This seems to be an area of debate. Considering the high lymph node metastatic rate and Ki 67% index of the tumour, it was concluded as IMPC with focal mucinous areas, in order to indicate that the behaviour of this tumour is aggressive as IMPC and not indolent as MC.

CR 10

Primary signet ring cell carcinoma of prostate; a case report

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Introduction: Primary signet ring cell carcinoma (SRCC) of prostate is a rare histological variant of prostate carcinoma occurring in 2.5% of prostate adenocarcinoma.

Case report: A 69-year-old man with a six-month history of bladder outflow obstruction was admitted with acute retention of urine. He did not complain of loss of weight, loss of appetite, haematuria or per rectal bleeding. The digital rectal examination revealed an enlarged prostate with normal consistency. Serum PSA was high (28.368ng/ml). Sigmoidoscopy, USS abdomen and pelvis were unremarkable. Trans urethral resection of prostate (TURP) was done to relieve the obstruction. TURP specimen comprised prostatic chips weighing 6 g. All tissues were histologically assessed and revealed a prostatic adenocarcinoma, predominantly (70%) composed of singly infiltrating signet ring cells and solid sheets of atypical cells. Signet ring cells showed enlarged eccentrically placed nuclei and vacuolated cytoplasm. Lesser component of the tumour showed fused glands lined by atypical cells having enlarged nuclei with prominent nucleoli. Perineural invasion and lymphovascular invasion were present. Tumour burden was 100%. The Gleason score was 5+4 and ISUP grading was 5. The histological impression was of a signet ring cell adenocarcinoma. Mucicarmine and alcian blue staining were negative. The tumour cells showed strong cytoplasmic positivity for PSA confirming the tumour as a primary prostatic SRCC.

Discussion and Conclusion: To diagnose primary SRCC of prostate, signet ring cells must constitute at least 25% of the tumour and a secondary tumour should be ruled out. Primary SRCC frequently associated with high-grade prostate adenocarcinoma. The presence of high serum PSA, strong cytoplasmic positivity of tumour cells for PSA and negative gastrointestinal work up was strongly indicative of a primary SRCC. Hence, we did not proceed with cytokeratin (CK7/20).

CR 11

Bilateral clear cell papillary cystadenoma of the epididymis; a case report

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Introduction: Papillary cystadenoma of the epididymis (PCE) is a rare epithelial tumour occurring sporadically or in association with Von Hipple-Lindau disease (VHLD). The association with VHLD is about 29.3% in unilateral PCE and about 60% in bilateral PCE.

Case report: A 25-year-old man presented with painful bilateral scrotal swelling for 2 months. Examination revealed a nodule in both epididymis. The scrotal ultrasound scan demonstrated a highly vascular epididymal mass in left side (2.6x1.9 cm) and cystic epididymal mass (4.3x4.2 cm) in right side. CECT scan of the abdomen and pelvis revealed multiple epididymal cysts and a solid isodense right adrenal gland mass (1.5x1.3x1.0 cm) favoring a malignant adrenal tumour with evidence of epididymal metastasis. Right adrenalectomy and bilateral epididymectomy were performed. Cut sections of right adrenal gland (5x4x2 cm) showed a nodular area 1.1 cm in diameter. Right epididymal mass showed a cyst measuring 3x2.5x2 cm. Left epididymal mass measured 2x2x1.5 cm and cut sections were solid and tan in colour.

Microscopy of the nodular area in adrenal gland revealed adrenal hyperplasia. Sections of both epididymal nodules showed a tumour arranged in papillae and tubules lined by columnar epithelium with distinct cell membrane, clear cytoplasm and rounded nuclei. Tumour cells were strongly positive for CK7 and negative for calretinin, D2-40 and CD10 which confirmed bilateral PCE and excluded renal cell carcinoma and adenomatoid tumour.

Conclusion: Bilateral PCE is a rare entity and diagnosed patients necessitate further investigation to rule out VHLD. In this patient there was no evidence to suggest VHLD but further follow up is needed.

CR 12

Unsuspected HIV infection presenting as cervical lymphadenopathy due to an opportunistic infection: a case report

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Introduction: Lymphadenopathy can occur at any stage of HIV infection. We report cryptococcal lymphadenitis as the presenting manifestation of HIV infection.

Case report: A 24-year-old, previously healthy man was admitted with high fever, and cervical lymphadenopathy. Excision biopsy of the lymph node showed sheets of foamy cells in the cortex and paracortex. These had engulfed organisms, which were round to oval and was highlighted by Grocott stain. Patient subsequently developed headache and vomiting. CSF cytology showed minimal inflammation with fungal yeast forms confirming meningeal involvement. Further investigations confirmed that the patient was HIV positive. The blood culture was positive with Cryptococcal neoformans.

Discussion: Cryptococcal infection is an opportunistic infection in people living with HIV (PLHIV).Cryptococcal meningitis is the most common presentation while cryptococcal lymphadenopathy is rare. Causes of HIV-associated lymphadenopathy include non-specific follicular hyperplasia, opportunistic infections, and malignancy. We present this case to highlight the importance of including fungal infections in the differential diagnosis of unexplained lymphadenopathy

CR 13

Hairy cell leukaemia variant involving the spleen: a case report

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Introduction: Hairy cell leukaemiavariant(HCLv) is an uncommon cytologically and immunophenotypically distinct indolent B cell neoplasm characterized by neoplastic cells with circumferential cytoplasmic villi. This neoplasm typically involves bone marrow, spleen and liver with relatively few hairy cells present in the blood. Peripheral lymphadenopathy is relatively uncommon.

Case report :A 62-year-old man presented with splenomegaly and lymphocytosis. The blood picture and bone marrow aspiration revealed abnormal small to medium lymphoid cells with prominent nucleoli and circumferential cytoplasmic villi. The peripheral blood cytometry showed lambda surface light chain restriction and positivity for CD20(bright) CD79b,FMC-7,CD103and negativity for CD5,CD10,CD23,CD38,CD25.Splenectomy specimen revealed a small to medium sized lymphocytic proliferation within the red pulp forming pseudo sinuses with atrophy of the white pulp.

Discussion: The diagnosis of HCLv is best made on characteristic immunopenotypic profile. The classic immunophenotypic profile of HCL is CD11c,CD103,CD25, and Annexin A1expression, whereas most cases of variant lack both CD25 and Annexin A1.Unlike the HCL which shows leukopenia, this HCLv shows leukocytosis. Monoclonal B cell proliferation with CD 103 positivity and CD 25 negativity and the presence of peripheral leukocytosis and visible nucleoli in neoplastic cells enabled the diagnosis of HCLv. The Annexin A1,CD11c were not available in the local setting.

Conclusion: Although morphological features are helpful in differentiating HCLv and HCL, immunopenotyping is important to confirm the diagnosis as the HCLv lack response to typical agents used in the treatment of HCL.

CR 14

Chondroblastoma with atypical features: a case report

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Introduction: Chondroblastomas(CB) comprise <1% of bone tumours and is considered benign. It usually occurs in long bones of males in the second decade. Flat bones of skull, limb girdle and hands are other sites. Diverse behavior of CBs including recurrence, locally aggressive growth and pulmonary metastasis cannot be predicted on histology.

Case report: A 62-year-old woman presented with a lump over the right scapula which had recurred after 20years. Her initial histological diagnosis was CB, managed surgically with no irradiation. The present imaging suggested a recurrence.

The histology showed a cellular tumour comprising small-medium sized sheets of rounded tumour cells with scant cytoplasm and hyperchromatic nuclei. The mitotic activity was 3-5/10hpf. The tumour infiltrated the soft tissue. Areas with classical histology of CB were evident focally. DOG1 and S100 immuno stains were positive.

Considering the unusual microscopy and the imaging findings the tumour was diagnosed as CB with aggressive behavior.

Discussion and conclusion: CBs are typically benign but can rarely show aggressive behavior and metastastasis. Recurrence rate is 10-12%, usually due to incomplete excision. Rare primary and recurrent CB can show extensive extra-cortical soft tissue involvement simulating malignancy on radiology. Aggressiveness could occur in recurrences or as an inherent property of the tumour. However, there are no defined histological criteria to diagnose aggressiveness, except soft tissue infiltration.

This case is unusual due to its late presentation, scapular location, recurrence after 20 years, extensive soft tissue invasion and small round cell tumour morphology. It highlights the importance of follow-up in preventing mutilating surgery as the histological features of aggressiveness are not defined.

CR 15

Collision tumour of appendix: low grade appendiceal mucinous neoplasm and neuroendocrine neoplasm

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Introduction: Primary appendiceal tumours are uncommon and collision tumours with both epithelial and neuroendocrine neoplasm are even rarer. We present two synchronous histologically distinct tumours of different clonal origin within the appendix with no transition between them.

Case history: A 33-year-old woman underwent right hemicolectomy and omentectomy for a caecal mass and multiple omental deposits detected during previous LSCS. The gross examination showed a cystic lesion involving the entire length of the appendix measuring 60x40x35mm with an abutting tan coloured area, measuring 13x13x12mm in the caecal end. The omentum showed multiple deposits. Histology of the cystic lesion revealed a mucinous epithelial lining with mild atypia and collections of extracellular mucin, with invasion into subserosa compatible with an appendiceal low grade mucinous neoplasm. The tan coloured area, with maximum microscopic size of 20.3mm, showed features of a well differentiated neuroendocrine tumour, with a mitotic count of 3/10HPF. Tumour cells are positive for synaptophysin and chromogranin. The Ki67index was 1%. No lymph node metastases were present. Both tumours were juxtaposed without intermingling. Omental deposits showed pools of mucin surrounded by mucinous epithelium with mild atypia and foreign body type multinucleated giant cells. The neuroendocrine tumour grade was 2, TNM stage – pT2N0 and the epithelial tumour stage - pT3N0M1b.

Discussion and conclusion: Management of low-grade mucinous neoplasm is local resection and neuroendocrine neoplasm of pT2 stage is hemicolectomy. Due to rarity of collision tumours, further studies are needed to assess their management and prognosis.

CR 16

Sarcoidal/tuberculoid type of necrobiosis lipoidica; an unusual histological variant

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Introduction: Necrobiosis lipoidica(NL) is an idiopathic disorder that presents with atrophic plaques on the shins and is characterized by granulomatous inflammation accompanied by necrobiosis. Although some cases are associated with diabetes mellitus, it is not confined to diabetes.

Case Report: A 65-year-oldwomanwith no history of diabetes or tuberculosis presented with well demarcated, hyperpigmented, atrophic plaques over both shins. She was initially diagnosed as lupus vulgaris six years back and was treated with anti-tuberculosis therapy. Biopsies showed multiple granulomata composed of epitheloid histiocytes and multinucleated giant cells involving both superficial and deep dermis accompanied by a lymphoplasmacytic infiltrate of varying degree. Both tuberculoid and sarcoidal granulomas were present. Foci of hyalinized, swollen and degenerated collagen fibers were seen. Elastic-Van Gieson stain confirmed the loss of elastic fibers. PeriodicAcid-Schiff, Grocott, Wade-Fite and Ziehl-Neelsen stains were negative for microorganisms.

Discussion and conclusion: The typical histological appearance of NL is that of necrobiosis surrounded by palisading granulomata. The above case showed both sarcoidal and tuberculoid granulomata accompanied by foci of necrobiosis. These features are seen in the rare sarcoidal/tuberculoid type of NL which occurs in non-diabetics and is characterized histologically by the presence of many epithelioid cells and giant cells frequently grouped in pseudotubercles. The histological differential diagnosis includes infections such as tuberculosis, granuloma annulare and sarcoidosis. The clinical presentation of atrophic plaques over both shins, presence of necrobiosis and plasma cells, lack of mucin, absence of coalesced granulomata, caseous necrosis and organisms favoured a diagnosis of NL. Dermatologists and pathologists should be aware of the unusual sarcoidal/tuberculoid type of NL typically seen in non-diabetics, in order to avoid misdiagnosis.

CR 17

Plasmacytoid urothelial carcinoma of upper urinary tract; an aggressive variant of urothelial carcinoma

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Introduction: Plasmacytoid urothelial carcinoma(PUC) is an uncommon, aggressive variant of urothelial carcinoma with a dismal prognosis. Most PUCs are reported in the bladder. Primary PUC in the upper ureter is extremely rare with only two reported cases in the English literature. Here we report the third case of PUC in the upper ureter.

Case report: A 51-year old heavy smoker presented with right loin pain. Initial sonography revealed hydronephrosis and upper hydroureter with no obvious cause. Subsequent intravenous urogram showed a 1.5cm sized enhancing lesion in the upper ureter. Ureteroscopic washing and cup biopsy was received for initial histological assessment and revealed sheets of mitotically active atypical plasmacytoid cells. The differential diagnoses were PUC, plasmacytoma and deposit of poorly cohesive carcinoma. The tumour was positive for CK-7, CK-20 and CD-138 and negative for E-cadherin, CD-20, MUM-1 and CD-56. A diagnosis of plasmacytoid urothelial carcinoma was made.The patient underwent nephroureterectomy which showed a PUC with no conventional urothelial carcinoma component. Initial follow up cystoscopy and biopsy were normal. However, owing to the aggressive nature of this variant, the patient presented with multiple recurrences, ultimately requiring cystoprostatectomy.

Discussion and conclusion: Differentiation of PUC from plasmacytoma is virtually impossible with morphology alone. CD-138 and cytokeratin can be positive in both conditions. Specific urothelial markers including GATA-3, UroplakinII/III and thrombomodulin are helpful to confirm urothelial origin. Possibility of plasmacytoma was excluded by negative of B-cell markers and serological investigations. The diagnosis of PUC is essentially based on immunohistochemical assay and early diagnosis is needed for timely, prompt management.

CR 18

Spermatic cord paraganglioma; a common tumour in an uncommon location

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Introduction: Paragangliomas are neoplasms of neural crest cell origin, located along the distribution of sympathetic and parasympathetic autonomic ganglia and nerves. Over 90% are located intra-abdominally with the majority being in adrenal medulla. Spermatic cord is an uncommon location for paraganglioma with only thirteen reported cases to date.

Case report: A 25-year old unmarried man presented with left sided varicocele and was found to have a solid tumour attached to the spermatic cord on imaging, which was confirmed intraoperatively. It was a solid, well circumscribed 20 mm sized tumour on macroscopy with a tan yellow cut surface. Microscopy showed an unencapsulated, multinodular, cellular lesion composed of irregular nests and sheets with focal Zellballen appearance. Some nests were surrounded by a layer of flattened sustentacular cells. The constituent cells were large and polygonal, with abundant pale eosinophilic cytoplasm and central vesicular nuclei with fine chromatin. Mitoses were focally high. Necrosis was absent. The tumour cells were positive for Synaptophysin and Chromogranin-A, with S-100 positive sustentacular cells. Pancytokeratin and desmin were negative. The Ki-67 index was 9.4%. The tumour was moderately differentiated on GAPP (Grading system for Adrenal Pheochromocytoma and Paraganglioma) score with an intermediate risk for metastasis, requiring long term follow up.

Discussion and conclusion: Primary paraganglioma is a rare entity in spermatic cord, requiring thorough evaluation to exclude the possibility of a secondary deposit from common intra-abdominal sites. All paragangliomas are now considered to have metastatic potential and risk stratification by means of histological features, Ki-67 value and serology is recommended to evaluate metastatic risk and prognosis.

CR 19

Mucinous cystic neoplasm of the liver-two rare cases with different clinical impressions

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Introduction: Mucinous cystic neoplasm of the liver(MCN-L) is a rare cystic epithelial tumour with ovarian-type mesenchymal stroma and mucinous epithelium that does not communicate with bile ducts. Its rarity necessitates recognition as it can mimic other liver lesions.

Case report:

Case 1-A 36-year-oldwoman presented with acute intestinal obstruction. The ultrasound scan showed a large cystic mass obstructing the bowel. Cyst was found to be arising from the liver during laparotomy, raising the possibility of a hydatid cyst.

Case 2- A 23-year-oldwoman presented with intermittent abdominal pain for one year. Radiology showed a benign cystic lesion in right lobe of the liver without demonstrable communication with the biliary system. A pyogenic abscess was suspected, and a drain was inserted. However, as symptoms were persisting, the lesion was excised.

Completely resected lesions were cysts measuring 150mm and 40mm in maximum diameters in case 1 and case 2 respectively. Cut surfaces were multilocular in both and free of solid areas. Microscopy revealed a single layer of mucinous type columnar epithelium devoid of atypia. Subepithelial tissue showed hypercellular spindly stroma of which the elongated nuclei expressed ER and PR in immune staining. Both cases were concluded as MCN-L. No high-grade dysplasia or invasive carcinoma

Discussion: Presence of ovarian stroma in MCN-L is the key to differentiate it from its main differential diagnosis of intra ductal papillary neoplasm and simple cyst. Although MCN-L is a benign tumour(90%) its rare association with invasive carcinoma, emphasizes the importance of complete surgical excision and extensive sampling to prevent recurrence and detect associated malignancy. Awareness of this rare neoplasm is essential as it lacks well-defined characteristics and poses a considerable diagnostic challenge preoperatively.

CR 20

Epithelioid haemangioendothelioma in the foot presenting as a recurring foot lump

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Introduction: Epithelioid haemangioendothelioma (EHE) is a rare vascular tumor with an intermediate malignant potential and unpredictable clinical course. It commonly involves the soft tissues of extremities but can occur in bone, skin, and visceral organs like lung and liver.

Case report: A 42-year-oldwoman presented with a recurrent left foot lump which was resected 6 months back. The excision biopsy was reported as a vascular proliferation. Clinically an arteriovenous malformation was suspected. Repeated MRI reported a recurrent focal vascular abnormality. Excision specimen was a skin covered, tan coloured nodular tissue with a white and yellow cut surface.

Histology revealed an ill-defined, infiltrative lesion in deep dermis involving the resection margins, composed of nests and cords of mildly pleomorphic round to oval cells with hyperchromatic irregular nuclei and eosinophilic cytoplasms. Cells with intracytoplasmic lumina containing erythrocytes, signet ring like cells, multivacuolated lipoblast like cells, rare cells in mitoses and thick and thin walled blood vessels are seen. The stroma was focally fibromyxoid and admixed with keloid like scar tissue. No necrosis was seen. Lesional cells were CD31 and CD34 positive and AE1/AE3 negative. The Ki 67 index was <1%. The diagnosis of EHE was made.

Discussion and conclusion: Although most soft tissue EHE are indolent some metastasize and cause death. Early histological diagnosis is important for treatment and is confirmed by WWTR1- CAMTA1 gene fusion. Adequate surgical resection and appropriate adjuvant therapy depending on the risk factors is recommended for resectable EHE. There is no consensus on the treatment of unresectable EHE.

CR 21

Eosinophilic enterocolitis– a diagnostic challenge

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Introduction: Eosinophilic enterocolitis (EE) represents the least frequent manifestation of the wide spectrum of primary eosinophilic gastrointestinal disorders (EGID). The aetiology and pathogenesis of EGID not clearly understood. Absence of standardized histological criteria, nonspecific symptoms and variable endoscopic findings pose a diagnostic challenge.

Case report: A 36-year-oldman presented with abdominal pain and loss of appetite for 6 months. Examination findings were unremarkable. The blood picture revealed eosinophilia and bone marrow examination did not reveal any neoplastic lesions. The CT scan of the abdomen showed long segment, enhancing, thickened wall of the duodenum and proximal jejunal loops. The duodenal, sigmoid and rectal mucosa appeared erythematous in the endoscopy. Microscopically both duodenal and illeal mucosa revealed preserved crypt villous architecture. There was marked intraepithelial eosinophilia with increased number of eosinophils in the lamina propria, approximately 110/HPF. Infiltration of the Peyers patches by eosinophils was also noted. The colon showed mildly distorted crypt architecture with crypt hyperplasia, eosinophils in the lamina propria approximately 30/HPF, foci of eosinophilic cryptitis and eosinophilic microabscess. None of the biopsies showed evidence of inflammatory bowel disease or a neoplastic lesion.

Discussion: The following 3 criteria are required for the diagnosis of EE. Presence of gastrointestinal symptoms, histologic evidence of eosinophilic infiltration in multiple gastrointestinal biopsies and exclusion of other causes of tissue eosinophilia such as parasitic infection, drugs, vasculitis, connective tissue diseases, inflammatory bowel disease, coeliac disease, lymphoma, mastocytosis and hypereosinophilic syndrome. The mucosal eosinophilic density varies widely between different segments of gastrointestinal tract. Most pathologists use a diagnostic value of >20 eosinophils/HPF.

Conclusion: The importance of serial sections of multiple colonic biopsies to determine diffuse enterocolic mucosal eosinophilia is highlighted in this case. Exclusion of secondary causes is equally important to confirm eosinophilic enterocolitis.

CR 22

Gastrointestinal neuroectodermal tumour of jejunum; a rare tumour

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Introduction: Gastrointestinal neuroectodermal tumour(GNET) / Clear cell sarcoma like tumour is an extremely rare tumour. It is a sarcoma involving the GI tract with neuroectodermal differentiation and gene fusion translocation involving EWSR1, usually EWSR1-ATF1 or EWSR1-CREB1.

Case report: A 32-year-old man presented with body weakness, vertigo and shortness of breath. He was found to have iron deficiency anaemia with Hb of 3.9 g/dl. Capsular endoscopy was performed and jejunal diverticula were found. As symptoms worsened diagnostic laparotomy was performed. Whitish polypoidal proximal jejunal tumour obstructing the lumen was identified with multiple enlarged mesenteric lymph nodes. Histology revealed a tumour composed of sheets and nest of oval, uniform cells separated by thin fibrous septae. The cells have vesicular nuclei, prominent nucleoli and clear cytoplasm. Mitotic figures were increased. Osteoclast - like giant cells were also seen. Six lymph nodes showed tumour deposits. The tumour cells were strongly positive for S100, negative for HMB45, DOG1, Synaptophysin, SMA, NSE, LCA, and AE1/AE3.

Discussion and Conclusion: In this case differential diagnoses included GIST, neuroendocrinecarcinoma, clear cell sarcoma and leiomyosarcoma. The strong, diffuse positivity for S100 favoured the diagnosis of GNET. The absence of melanocytic differentiation excludes the soft tissue Clear Cell Sarcoma (CCS) involving GI tract. DOG1 negativity excludes the diagnosis of GIST.GNET is a rare malignant tumour of GI tract and can be mistaken for other non-epithelial GI tumours. Awareness of its existence is mandatory to avoid misdiagnosis particularly as GIST, CCS or Malignant peripheral nerve sheath tumour. The demonstration of EWSR1 translocation confirms the diagnosis.

CR 23

Myxoid liposarcoma with chondroid and osseous differentiation- A Case report

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Introduction: Myxoid liposarcoma (MLS) is the second commonest type of liposarcoma accounting for 20-30% of malignant lipomatous tumours and occurs mostly in the lower limbs. The morphological spectrum of MLS is vast. Presence of chondroid, osseous or rhabdoid differentiation as heterologous elements is a rare phenomenon in MLS. Presence of these heterologous elements could raise diagnostic difficulties in biopsies especially when this component is prominent.

Case report: A 39-year-old woman underwent a resection of a rapidly enlarging mass in the right thigh. The mass measured 19x18x6 cm. The lobulated cut surface was gelatinous with myxoid and haemorrhagic areas. The microscopy revealed a lipomatous tumour with spindle cells and lipoblasts lying in a copious myxoid matrix containing delicate branching curvilinear vessels. The round cell element was less than 5%. Cartilaginous and osseous areas were identified closely merging with the lipomatous areas. The chondroid lobules showed hypercellularity without chondrocyte atypia, multinucleation or mitoses. Based on these findings, a MLS with chondroid and osseous differentiation was made.

Discussion and conclusion: Distinguishing MLS with heterologous elements from other benign/malignant soft tissue tumours could be challenging, especially in small biopsies. Identification of classical histological features of MLS and the absence of atypical features in heterologous components are helpful in the diagnosis as in this case. Ample sampling in resected specimens is essential. The heterologous components in tumours could be due to metaplasia or dedifferentiation. However, the concept of dedifferentiation in MLS has been challenged. Recent studies have demonstrated the same molecular alteration in both lipomatous and heterologous components suggesting a metaplastic phenomenon.

CR 24

Steatohepatitic Hepatocellular carcinoma; A morphological subtype associated with Metabolic Syndrome

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Introduction: Steatohepatitic hepatocellular carcinoma (SH-HCC)is a variant of HCC described in 2010 by Salamao. It is closely associated with metabolic syndrome (MS) and nonalcoholic fatty liver disease(NAFLD). Distinguishing SH-HCC from the background steatotic liver as well as from mimickers such as steatohepatitic focal nodular hyperplasia and hepatocellular adenoma with fatty change is challenging.

Case report: A 45-year-old man with diabetes, hyperlipidaemia and a BMI of 29.9kg/m2 was found to have a 7 cm sized right-lobe liver lesion. The radiology was equivocal. The right-lobectomy showed a yellow, firm, circumscribed nodule. The microscopy revealed closely packed unencapsulated nodules, comprising thick hepatocyte cords with moderately pleomorphic nuclei. Large droplet steatosis accounted for 50-60% of the tumour. Ballooning degeneration and lobular-inflammation was present. Non triadal arteries were prominent. No portal tracts, nor a ductular reaction was present within the lesion. There were no vascular-emboli. The background liver showed steatosis amounting to 40% and mild steatohepatitis without fibrosis.Glypican-3 was negative in lesional cells, CD 34 highlighted extensive sinusoidal capillarization and the reticulin stain showed diffuse and complete loss of reticulin fibers in the lesion.

Discussion: The poorly characterized clinico-pathological features and immunohistochemical-profile make the diagnosis of SH-HCC difficult. A panel of three immune-markers(Glypican-3, Glutamine-synthetase, HSP-70) is recommended for diagnosis but only Glypican3 is available locally. However, the diffuse absence of the reticulin fiberframe work, sinusoidal capillarization, presence of non-triadal arteries and the lack of portal tracts in the lesion were helpful in making a diagnosis.

Conclusion: The difficulties encountered by pathologists in the local context are highlighted, especially in the background of arising incidence of SH-HCC in association with MS.

CR 25

A rare case of thymic squamous cell carcinoma, presenting in an unusual site; a diagnostic dilemma

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Introduction: Thymic carcinomas (TC) are rare, aggressive neoplasms of the mediastinum with frequent local invasion and distant metastases. It has a wide range of morphological appearances and squamous cell carcinoma (SCC) is the commonest. We report a case of TC diagnosed on a posterior cervical lymph node biopsy.

Case report: A 65-year man presented with chest discomfort and generalized lymphadenopathy for 3 months. The posterior triangle cervical lymph node biopsy showed deposits of a poorly differentiated tumor, composed of nests and cords of atypical cells with coarse chromatin, increased mitosis and scanty eosinophilic cytoplasm. Multifocal necrosis was present. The tumour cells were positive for AE1/AE3 and negative for CD3, CD20. On subsequent inquiry, he had a widened mediastinum in X-ray and CECT showed a focally calcified mediastinal mass, encasing great vessels with liver and bone metastases. The second immunomarker panel was done and showed that the tumour cells were positive for P63, CD5, CD117, 34βE 12 and negative for neuroendocrine markers. The bone marrow trephine biopsy also showed a tumor with same histological and immunohistochemical patterns. Hence metastasis of a TC was confirmed.

Discussion: The differential diagnoses for a mediastinal mass with cervical lymphadenopathy are thymic tumours, lymphoma, carcinoma and rarely germ cell tumours. Positivity for AE1/AE3 and negativity for CD3, CD20 narrows down the possibilities to carcinomas and thymic tumours. The characteristic positivity for CD5, CD117 and squamous markers, together with the relevant history and radiological findings, are diagnostic of thymic origin metastasis.

Conclusion: TCs deposits are uncommon in cervical lymph nodes and a high degree of suspicion and clinico-radiological evaluation with immunohistochemical studies, are mandatory in diagnosis.

CR 26

Mantle cell lymphoma presenting as colonic polyposis

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Introduction: Mantle cell lymphoma(MCL) is an aggressive mature B cell neoplasm that rarely presents extranodally in colon, accounting for 1-4% of primary gastrointestinal lymphomas. 88% of these tumours occur in male with a mean age of 61-years. They often(9%) present as multiple intestinal lymphomatous polyposis(MILP). MCLs commonly express CD5 and >95% carry t(11;14) (q13;q32)translocation, leading to cyclinD1 overexpression.

Case report: A-86-year old man presented with altered bowel habits for three months. On examination he was afebrile and had no lymphadenopathy or hepatosplenomegaly. Subsequent colonoscopy revealed multiple colonic polyps from rectum to hepatic flexure. The largest polyp measured 0.6x0.5x0.3 cm. Microscopy revealed a neoplasm composed of a monomorphic population of medium sized lymphocytes arranged in diffuse sheets in lamina propria and submucosa with focal destruction of muscularis mucosa and crypts. The neoplastic cells are diffusely positive for CD20,CD79a and cyclinD1. CD5 showed diffuse aberrant expression and CD43 revealed multifocal aberrant expression in neoplastic B cells. A few scattered reactive cells were positive with CD3,CD4 and CD8. CD56 and CD10 were negative; Ki67proliferationindex was 70%. Hence, the diagnosis of MCL was made.

Discussion: Endoscopically, gastrointestinal lymphomas(GIL)could manifest as ulcers, erosions or MILP(accounting for 10% of GILs).MILP is a distinct, yet nonspecific presentation of intestinal MCL(9%). Marginal B cell lymphoma, follicular lymphoma and less commonly, enteropathy associated T cell lymphoma and monomorphic epitheliotropic intestinal T cell lymphoma can also present as MILP.MILP originates from the mantle zone of lymphoid follicle of mucosa associated lymphoid tissue. Thus, typical lymphoma presenting with MILP is MCL.

Conclusion: In polyposis syndromes with polyps containing predominant lymphocytic infiltrate, the possibility of MCL should always be considered.

CR 27

Primary testicular t cell lymphoma in a young male, an uncommon presentation

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Introduction: Primary testicular lymphoma is a rare neoplasm that accounts for 5% of testicular malignancies. Mean age of occurrence is around 67 years. Diffuse large B cell lymphoma is the commonest. T cell lymphomas in testis are rare. Common metastatic sites are regional lymph nodes and contralateral testis.

Case report: A 27-year old man presented with dyspnoea and pleuritic type chest pain for two weeks. Investigations revealed a mediastinal mass suggestive of mattered lymph nodes and right sided pleural and pericardial effusions. Guided aspirations from effusions displayed lymphocytic effusions with reactive mesothelial cells and suspicious of an atypical lymphoid proliferation. Cell block examination revealed a predominant medium sized atypical lymphoid proliferation which showed membranous positivity for CD 3. They were negative for TdT, CD 20 and CD117. Ki 67 proliferative index was 30%. His blood picture and bone marrow examinations were negative. Detailed general examination revealed an incidental finding of a right sided testicular mass. Right orchidectomy was performed and oedematous testicular tissue was the only macroscopic finding. Microscopic examination revealed an atypical lymphoid proliferation infiltrating in between seminiferous tubules and epididymal tissue with extension to the tunica vaginalis. Immunohistochemical staining pattern was similar with the above T cell neoplasm. Computerized tomography of the abdomen was negative for para-aortic lymphadenopathy and hepatosplenomegaly.

Conclusion: Primary T cell lymphoma of the testis in a young man presenting with superior mediatinal mass, pleural and pericardial metastases is a rare occurrence.

CR 28

A rare concurrent occurrence of adenoid cystic carcinoma of breast and high grade serous carcinoma of ovary/peritoneum

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Introduction: Adenoid cystic carcinoma(ACC)often seen in salivary glands while occurrence in the breast israre and accounts for 0.1% of breast carcinomas. Mean age of occurrence is 64 years. Concurrent occurrence ACC of breast and high-grade serous carcinoma(HGSC) of ovary/peritoneum is exceptionally rare.

Case report: A 70-year-old woman presented with a left breast lump, abdominal distension and high CA125. Ultrasound-scan revealed a hypoechoic lesion in the L-breast and a L-ovarian cyst with ascites. L-mastectomy, axillary clearance and peritoneal biopsy(PB) were performed. The breast lump showed a circumscribed tumour comprising bimodal cell population arranged as tubules, cribriform structures and solid nests. Cells were negative for oestrogen-receptors,progesterone-receptorsand HER-2. Luminal cells showed strong membranous positivity for CD117. Ki-67 expression was 10%. A diagnosis of ACC was made. Three out of seven lymph nodes showed tumour deposits with similar immunohistological features. PB revealed an infiltrating neoplasm comprising highly atypical cells arranged as sheets, vague glands and occasional papillae. Cells showed strong nuclear positivity for P53 and WT1. CK7 showed faint positivity. CK20 was negative. A diagnosis of HGSC was made.

Discussion: Breast-ACC belongs to triple-negative basal-like subtype and has a relatively favourable prognosis. Therefore, clinically disseminated disease in this patient warranted exclusion of concurrent high-grade malignancy. However, exact determination of the primary site of HGSC was not possible due to disseminated disease. Though BRCA-mutations are known associations of breast and ovarian carcinomas, specific mutations involved in Breast-ACC and HGSC of ovary are not found in literature.

Conclusion: This case highlights the importance of immunohistochemical evaluation of each tumour focus when there are different histomorphologies.

CR 29

Fibrolamellar hepatocellular carcinoma; a rare tumour of young adults

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Introduction: Fibrolamellar hepatocellular carcinoma(FHCC) is a variant of hepatocellular carcinoma (HCC) accounts for <1% of primary liver tumors.

Case Report:A25-year-old man presented with loss of appetite and weight and a palpable right abdominal mass. CECT scan showed a 7.5cm heterogenous mass with calcifications involving both lobes of liver. Rest of the liver was normal. Alpha-feto-protein level was7.2ng/ml. A tumour involving segments IV and VII of the liver and multiple peritoneal deposits were noted during diagnostic laparoscopy. Biopsies from liver and peritoneal lesions showed a tumour with large polygonal to spindle-shaped cells arranged in cords and nests, containing deeply eosinophilic cytoplasm and vesicular nuclei with macronucleoli. Background contained variably dense lamellar bands of collagen and bile pigment. Tumour cells showed diffuse positivity for CD 68 and Hep-Par1. A diagnosis of FHCC was made. The patient was referred for chemotherapy as the tumour was disseminated.

Discussion: FHCC has distinct clinical, radiological and histological characteristics. As evidenced in the present case, FHCC is seen predominantly in young patients without underlying liver disease. Alpha-feto-protein levels are characteristically normal. Radiological findings include a large, solitary, well-defined heterogeneously enhancing mass with calcifications. A central scar mimicking focal nodular hyperplasia is seen in 65- 75%. Tumour is positive for cytokeratin 7,8,18,19, glypican-3, CD68 & Hep-Par1. Fusion translocation of gene DNAJB1-PRKACA is highly specific for FHCC. Prognosis is similar to conventional HCC arising in non-cirrhotic liver.

Conclusion: The awareness of FHCC as an uncommon tumour of young patients with non-cirrhotic livers is important for early diagnosis of this entity, as surgical resection is the only effective treatment.

CR 30

Fulminant necrotizing amoebic colitis: a rare occurrence.

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Introduction: Amoebiasis is a disease caused by the protozoan *Entamoeba histolytica*, which is more prevalent in the tropics, resulting in 40,000 to 100,000 deaths per-year worldwide. Fulminant necrotizing amoebic colitis (FNAC) is a very rare complication of amoebiasis which can mimic inflammatory bowel disease (IBD), It carries a high mortality rate, ranging from 55% to 100%.

Case Report: A 9-year-old boy was transferred from the local hospital after presenting with blood and mucus diarrhea, vomiting and abdominal pain. He had no history of IBD. On examination, his abdomen was distended and tender. Abdominal X-ray revealed dilated bowel loops and the ultrasound-scan showed moderate ascites with paralytic ileus. At exploratory laparotomy, extensive necrosis of colon with multiple perforations was found requiring a near total colectomy with ileostomy. Grossly, the mucosa throughout the colon revealed multiple, large, geographic ulcers with necrotic slough. Microscopy revealed necrotizing transmural ulcers with inflammatory exudate, some of which appeared flask shaped. Crypt architecture was preserved. Organisms resembling amoebae were seen within necrotic debris. PAS-Martius yellow stain highlighted amoebae with erythrophagocytosis, which supported the diagnosis of amoebic colitis (AC).

Discussion: Flask shaped mucosal ulcers in AC are frequently located in the cecum, ascending colon and rectum. Presence of extensive ulceration and inflammatory polyposis in FNAC causes confusion with IBD. Perforation is common and peritonitis is the major cause of death. Complete resection of the involved segment is the treatment of choice.

Conclusion: Diagnosis of FNAC is difficult as it can mimic complicated IBD. Administration of steroids, the main stay of treatment for IBD can lead to catastrophic consequences of this critical condition.

CR 31

Splenogonadal fusion simulating a testicular malignancy: a case report

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Introduction: Spleno-gonadal fusion (SGF) is a rare malformation of gonads fusing with ectopic splenic tissue with less than 200 cases being reported to date. The close proximity of spleen and gonad during early embryonal development facilitates fusion which may be continuous or discontinuous. The continuous form shows attachment of testicular tissue to the spleen through a cord of splenic tissue or fibrous band. This may be associated with limb bud anomalies (peromelia) and micrognathia. The discontinuous form shows ectopic splenic tissue fused to gonads without any continuation with spleen and may rarely be associated with cardiac anomalies.

Case report: A one-year-old boy diagnosed with multiple congenital anomalies including bilateral lower limb agenesis and imperforated anus was found to have a testicular lump suspicious of a malignancy. The imaging revealed a highly vascular mass attached to testis. Intra-operatively, a firm separately located mass attached to the testis by a fibrous band was identified. The mass was excised sparing the testis. Three pieces of brown coloured tissue was received, and the histology revealed normal splenic tissue confirming the diagnosis of SGF

Discussion and Conclusion: The primary aim of pathological evaluation is to rule out a malignancy. Awareness of this rare entity especially the discontinuous form of SGF where associated anomalies are absent, is essential to eliminate unnecessary orchiectomies in infants and children

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