



नहि ज्ञानेन सदृशं – *Knowledge is unparalleled*

Patho - Insight

NEWSLETTER FROM THE DEPARTMENT OF PATHOLOGY

ADICHUNCHANAGIRI
INSTITUTE OF MEDICAL
SCIENCES



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From the Editors desk

“Time and tide wait for none”. Another six months have rolled by and it is time to release yet another newsletter from the department. Our department is blessed with a team of highly enthusiastic and energetic faculty and post-graduate students. Their untiring efforts have borne fruits in the form of introduction of improvised modalities in undergraduate and post-graduate teaching, research publications and a facelift to the entire department. Besides the academic events, department of pathology has been a forerunner in organizing periodic cultural events in the college.

All our ventures, academic and otherwise have been possible only because of the constant support and encouragement of our dynamic Principal Dr.M.G.Shivaramu who has played a pivotal role in all our endeavours.

The current issue highlights all the interesting happenings in the department that are mention worthy.

Regards

Dr Vijay Shankar S

THE BETHESDA SYSTEM FOR REPORTING THYROID CYTOPATHOLOGY – A STEP TOWARDS UNIFORMITY IN REPORTING OF THYROID FNAC

The thyroid Fine needle aspiration cytology (FNAC) has an important role in decision making as to treat the patient medically or opt for surgical management. Advent of FNAC practice has increased the number of surgeries being done for thyroid nodules that are malignant from 14 % to 50%. However, the routine reporting of thyroid cytology have several limitations which include subjective variability among different pathologist encompassing inter laboratory variation.

However with the aim to add objectivity to the reporting of thyroid cytology the National Cancer Institute (NCI) hosted the “the NCI Thyroid Fine Needle Aspiration State of the Science conference” at Bethesda ,Maryand on 22nd and 23rd October 2007.

This led to the recommendations for a standard reporting format which aimed at facilitating communication among pathologist, physician, surgeon, endocrinologist and radiologist.

Consequently the Bethesda System of Reporting Thyroid Cytopathology came into existence. The two key features of this included:

1. Placing each FNAC into one of the six categories
2. It provides risk of malignancy for individual category in order to guide clinician in selecting appropriate treatment modality.

The Bethesda System for Reporting Thyroid Cytopathology: Recommended Diagnostic Categories*

I. Nondiagnostic or Unsatisfactory

Cyst fluid only

Virtually acellular specimen

Other (obscuring blood, clotting artifact, etc)

II. Benign

Consistent with a benign follicular nodule (includes adenomatoid nodule, colloid nodule, etc)

Consistent with lymphocytic (Hashimoto) thyroiditis in the proper clinical context

Consistent with granulomatous (subacute) thyroiditis

Other

III. Atypia of Undetermined Significance or Follicular Lesion of Undetermined Significance

IV. Follicular Neoplasm or Suspicious for a Follicular Neoplasm

Specify if Hürthle cell (oncocytic) type

V. Suspicious for Malignancy

Suspicious for papillary carcinoma

Suspicious for medullary carcinoma

Suspicious for metastatic carcinoma

Suspicious for lymphoma

Other

VI. Malignant

Papillary thyroid carcinoma

Poorly differentiated carcinoma

Medullary thyroid carcinoma

Undifferentiated (anaplastic) carcinoma

Squamous cell carcinoma

Carcinoma with mixed features (specify)
Metastatic carcinoma
Non-Hodgkin lymphoma

The Bethesda System for Reporting Thyroid Cytopathology: Implied Risk of Malignancy and Recommended Clinical Management

Diagnostic Category	Risk of Malignancy (%)	Usual Management†
Nondiagnostic or Unsatisfactory	1-4	Repeat FNA with ultrasound guidance
Benign	0-3	Clinical follow-up
Atypia of Undetermined Significance or Follicular Lesion of Undetermined Significance	~5-15‡	Repeat FNA
Follicular Neoplasm or Suspicious for a Follicular Neoplasm	15-30	Surgical lobectomy
Suspicious for Malignancy	60-75	Near-total thyroidectomy or surgical Lobectomy §
Malignant	97-99	Near-total thyroidectomy §

FNA, fine-needle aspiration.

† Actual management may depend on other factors (eg, clinical, sonographic) besides the FNA interpretation.

‡ Estimate extrapolated from histopathologic data from patients with “repeated atypicals.”

§ In the case of “Suspicious for metastatic tumor” or a “Malignant” interpretation indicating metastatic tumor rather than a primary thyroid malignancy, surgery may not be indicated.

**Authors: Dr. Amita K,
Associate prof,
Department Of Pathology**

“Patau Syndrome”-Most Severe Viable Autosomal Trisomy

Authors:Dr. Swati Sahni, Dr. Amita K, Dr. Vijay Shankar S.

Department Of Pathology

Adichunchanagiri Institute Of Medical Sciences

INTRODUCTION:

‘Patau Syndrome’, synonymous with trisomy 13 is a rare chromosomal abnormality which affects approximately 1 in 15000 live births and is associated with multisystemic abnormalities.^{1,2} Amongst the three trisomies compatible with extra-uterine life namely, Patau , Down & Edward Syndromes, Patau Syndrome is the most severe and has the least incidence.³

AIMS AND OBJECTIVES: To study its diagnostic features on Perinatal autopsy with brief review of literature.

MATERIAL & METHODS: A 24 year old primi with 19 weeks’ gestation, radiologically diagnosed with an anomalous baby underwent termination. Perinatal autopsy was conducted through a linear midline incision from symphysis mentii to symphysis pubis circumventing the umbilicus. Thoracic and abdominal organs removed enmasse revealed multiple abnormalities.

RESULTS:

Autopsy findings

1. Gross examination:

- a) Weight : 400grams
- b) Crown heel length : 24.5 cms
- c) Crown rump length : 17 cms
- d) Left foot : 2 cms
- e) Head circumference : 14 cms
- f) Chest circumference : 10.5 cms

2. External abnormalities:

- a)Cleft lip/Cleft palate
- c)Short webbed neck with cystic hygroma
- d)Lowset ears
- e)Coarctation of aorta
- f)Absent forearm bones ,Agenesis of fingers
- g)Omphalocele with protrusion of liver and intestinal coils
- h)One umbilical artery and one umbilical vein



Figure 1- Cleft Lip & Palate



Figure2-short webbed neck



Figure 3- Coarctation of aorta



Figure 4- Omphalocele with protrusion of liver and intestinal coils

3. Microscopy:

- 1) Sponge like neck swelling: Thin walled endothelium lined channels filled with RBCs. Smooth muscle bundles were noted. Features suggestive of **Cystic hygroma**.
- 2) Congestive changes in bilateral kidneys, adrenals, liver, spleen & Intestine.

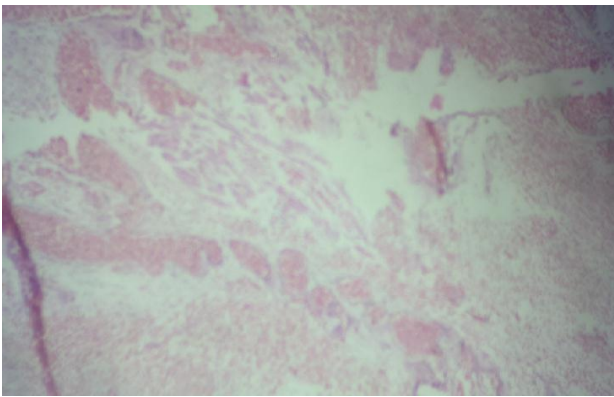


Figure 5- microscopic picture of cystic hygroma

Impression: Patau syndrome

Conclusion: Perinatal autopsy is the gold standard for diagnosis since ultrasonography may not provide a conclusive opinion as in the present case. Genetic counseling is mandatory once the diagnosis is confirmed by cytogenetic studies.

References:

- 1) Baty BJ, Jorde LB, Blackburn BL, Carey JC. Natural history of trisomy 18 and trisomy 13: II. Psychomotor development. *Am J Med Genet.* 1994 Jan 15. 49(2):189-94.
- 2) Morris JK, Savva GM. The risk of fetal loss following a prenatal diagnosis of trisomy 13 or trisomy 18. *Am J Med Genet A.* 2008 Apr 1. 146(7):827-32.
- 3) Stafford CO. A Case Study of Trisomy 13: Balancing Hope and Reality. *Pubmed.gov.* 2015 Aug; 15(4):285-9.

AWARDS AND ACCOLADES

Dr. Vijay Shankar- Re-elected as secretary of Karnataka Chapter of Indian Association of Pathologists and Microbiologists for 2nd consecutive term

WORKSHOPS/ TRAINING ATTENDED

- Short course in **Educational methodology** conducted by RGUHS- Dr. Abhishek.M.G, Dr. Amita K, Dr. Shobha.S.N
- Workshop on **“Healthcare And Environmental Ethics”** conducted at Adichunchanagiri institute of Medical Sciences, in association with Asia Pacific Chair, International Network of the UNESCO Chair in Bioethics (Haifa). Dr. Vijay Shankar.S , Dr. Amita K
- Participated as delegate in Preconference workshop on **“Ways To Engage Learners”** at National conference in Medical Education (MECon-2016) held on at JSS Medical college Mysuru. Dr. Vijay Shankar Dr. Abhishek.M.G , Dr. Amita K.
- Participated as delegate in Preconference workshop on **“ICT Enabled Teaching”** at National conference in Medical Education (MECon-2016) at JSS Medical college Mysuru. Dr. Vijay Shankar Dr. Abhishek.M.G , Dr. Amita K.



Poster presentation by Dr. Tony Joe Peechatt 1st year post-graduate student at the 42nd Annual KCIAPM State Conference in Mangalore



Poster presentation by Dr. Swati Sahni, 2nd year post-graduate student at the 42nd Annual KCIAPM State Conference in Mangalore

PUBLICATIONS BY FACULTY & PGs

1. Amita K, Vijayshankar S, Anoosha K, Hemalatha AL. Diagnostic dilemma in a gingival lesion- Plasma cell granuloma versus extramedullary plasmacytoma. *Int J Med Res Health Sci* 2015;4(2):467-470.
2. Hemalatha AL, Abhishek MG, Ashok KP, Sanjay M, Anoosha K et al. Evaluation of Effect of Cigarette Smoking on Vital Seminal Parameters which Influence Fertility. *J Clin Diag and Res* 2015;9(7):13-15.
3. Hemalatha A L, Shobha S N, Ashok K P, Sarvesh B M, Nanjundswamy D, Swati Sahni, Dr Raghuvveer C R. Applicability of adopting morphological patterns in pediatric anemias as etiological indicators. *Intl J of clinical and biochemical research*- Accepted August 2015
4. Amita K, Vijay Shankar S, Sarvesh, Abhishek MG. Giant Cell Fibroblastoma - A Rare Soft Tissue Tumor In An Elderly Female. *Indian Journal of Pathology and Oncology*, April-June 2015;2(2);105-108.
5. Amita K, Nitin Kumar H, Shobha SN, Vijay Shankar S. The Role Of Platelet Parameters As A Biomarker In The Diagnosis And In Predicting The Severity Of Preeclampsia. *Indian Journal of Pathology and Oncology*, April-June 2015;2(2);57-60
6. Abhishek M G ,Sanjay M “Diagnostic efficacy of Nucleated Red blood cell count in the early diagnosis of neonatal sepsis.” *Indian jour of path and oncology*.sept15 ,2015 vol 2 issue3.
7. Amita K, Shankar SV, Sanjay M. Co-Existence of Acinic Cell Carcinoma - Papillary Cystic Variant and Extrapulmonary Tuberculosis – Report of A Case with Brief Review. *Journal of Clinical and Diagnostic Research*. 2015 Sep, Vol-9(9): ED21-ED23.
8. M G Abhishek*, BM Sarvesh, ML Naganna “Evaluation Of The Prevalence Of Transfusion Transmissible Diseases Among Blood Donors In Rural Areas Of Bellur” *International Journal of Advances In Case Reports*, Volume 2, Issue 16 , 2015, 1033-1036.
9. Shobha SN, Amita K, Narendra BR. Evaluation of the Role of Fine Needle Aspiration Cytology in the Diagnosis of Follicular Patterned Lesions of Thyroid. *Indian Journal of Pathology and Oncology* 2015;2;158-160.
10. Abhishek M G , Deepika “Evaluation of the prevalence of the anemia in high school going adolescents females in the rural area of south India” *Indian jour of path and oncology*.sept15 ,2015 ;2(3):113-117..
11. Vijay Shankar S, Nanjundaswamy D, Amita K, Raghuvveer CR. Primary Papillary Thyroid Carcinoma in Thyroglossal Duct Cyst in an Adolescent Girl: A Rare Case Report and Literature Review. *Indian Journal of Pathology and Oncology*, July September 2015;2(3);175-78.
12. M. G. Abhishek., Impact of Alcohol on Human Vital Seminal Parameter Which Influence Fertility. *Journal of Evidence based Medicine and Healthcare*; Volume 2, Issue 28, July 13, 2015; Page: 4081-4087,
13. M.G. Abhishek, and Sarvesh, BM ,”Study of association between perinatal asphyxia and Nucleated red blood cell count in umbilical cord blood”. *International journal of advance case reports*,2015;2(16):1003-1006,
14. Hemalatha AL, Abhishek.M G, Ashok Kagathur.Puttaveerachary, Sanjay Manchainah, Anoosha Krishnamurthy, Sadaf Bashir, et al.. Evaluation Of Effect Of Cigarette Smoking On Vital Seminal Parameters Which Influence Fertility. *Journal of Clinical and Diagnostic Research* [serial online] 2015 July [cited: 2015 Jul 26]; 9:EC13-EC15.

CONFERENCES & CMEs ATTENDED BY FACULTY & PGs

1. Labour analgesia and Critical Care workshop. 26th August 2015, AIMS, B.G.Nagara (Dr.A.L.Hemalatha, Dr. C.S Indira)
2. Recent advances in Head and Neck cancers. State level CME on 11th September 2015, AIMS, B.G.Nagara. (Dr.A.L.Hemalatha, Dr. C.S Indira)
3. Vascular surgery – An Update 25th August 2015, AIMS, B.G.Nagara (Dr.A.L.Hemalatha, Dr. C.S Indira)
4. Medical Disorders in Pregnancy State Level CME on 10th July 2015 B.G.Nagara (Dr.Abhishek.M.G, Dr. Vijay Shankar.S, Dr.Ashok.K.P, Dr.Anoosha.K)
5. Anemias revisited Understanding the Pathodynamics in Clinical & Laboratory Practice CME on 7th August 2015 (Dr. C.S Indira)
6. 42nd Annual state KCIAPM conference, 11th & 13th September 2015 A.J.Institute of Medical Sciences, Mangaluru (Dr.Vijay Shankar.S, Dr. Sarvesh.B.m, Dr.Sanjay.M & Dr. Ashok.K.P)
7. Male genitourinary pathology, 11th & 12th July 2015. Bangalore Medical College. (Dr.Vijay Shankar.S, Dr.Amita.K)
8. Gastrointestinal pathology. 28th June 2015. Sri devaraj Urs Medical college. Kolar (Dr.Ashok.K.P, Dr.Anoosha.K)
9. “Patho Insight – Current Perspectives In Diagnostic Pathology” on 20th November 2015 (Dr. A.L.Hemalatha, Dr. Vijay Shankar.S, Dr. Abhishek.M.G, Dr. Amitha K, Dr. Sanjay.M, Dr. Shobha.S.N, Dr. Nanjundaswamy.D, Dr. Prakash, Dr. Indira.C.S, Dr. Naganna M L, Dr. Anoosha.K, Dr.Ashok.K.P, Dr. Swati, Dr. Raghuveer, Dr. Amita Kumari, Dr.Tony Joe Peechat, Dr. Sachin Kumar Dixit)



STAFF & PGs- Department of Pathology

Sitting (L to R): Dr. Naganna.M.L, Dr.Amita.K, Dr. Vijay Shankar.S, Dr. A.L.Hemalatha, Dr. Abhishek.M.G, Dr. Shobha.S.N, Dr. Nanjundaswamy.D **Standing (L to R):** Dr. Prakash.B.V, Dr. Sanjay.M, Dr. Amita Kumari, Dr. Tony Joe Peechat, Dr. Ashok.K.P, Dr. Anoosha.K, Dr. Sarvesh.B.M, Dr. Sachin Dixit

From:

**Department of Pathology
Adichunchanagiri Institute of Medical
Sciences, B.G.Nagara- 571 448**