NEWSLETTER

OCTOBER 1988

Contents

Editorial

Time is getting ripe for us to meet in Ahmedabad this time (Feb. 1989). It is nice occasion to meet everybody atleast once a year. Get your papers ready for presentation and send the abstracts before 31st December 1988 along with registration fees to the Organising Secretary of XVIII I. A. C. Conference. We are very fortunate in having Dr. Tilde Kline, from Philadelphia, U. S. A. as our guest speaker at the ensuing conference and wish she carries happy memories of Indian adventure.

In addition to the regular features in the Newsletter, we have this time a 'Cytology Crossword'.

It has been a great pleasure working as Editor of I. A. C. Newsletter for the past three years and greater pleasure in handing over charge of this responsibility to a more efficient person (Dr. Shobha Grover). During my tenure, I have received overwhelming support from all the office bearers and other members for upliftment of the Newsletter. I am grateful to all those who helped me directly or indirectly and express my heartfelt thanks to all the contributors.

Yours Sincerely,

Dr. PRAKASH V. PATIL

XVIII Annual Conference of I. A.C.

The organising Committee has great pleasure in inviting you to XVIII I. A. C. Conference to be held at Smt. N. H. L. Muncipal Medical College, Ahmedabad.

Conference Programme is as follows :

Feb. 3rd 1989	Pre-conference workshop on "Viral Infections of Female Genital tract"
Feb. 4th 1989	Inauguration, Academic Oration, Guest lecture by **Dr. Tilde kline**, U. S. A. Nalinibai Thakker Award Papers, Jwala Devi Prize Papers, Immunocytochemistry papers, Proferred papers.
Feb. 5th 1989	Symposium on 'Problems in Cytodiagnosis of effusions " by **Dr. K. R. Harilal,** Oration by **Dr. Mohini Nayar,** proferred papers, Slide seminar by **Dr. Darshana Daftary.**

Registration fees upto 31st Dec. 1988 -- Rs. 200/-
after 1st Jan. 1989 -- Rs. 250/-

Workshop fees upto 31st Dec.1988 -- Rs. 100/-
after 1st Jan 1989 -- Rs. 125/-

Last date for receiving abstracts is 31st DECEMBER 1988

For further details please contact :
Dr. H. S. Shah,
Organising Secretary,
XVIII Annual Conference of I. A. C.
Dean, Dept. of Pathology,
Smt. N. H. L. Municipal Medical College, Ellisbridge,
AHMEDABAD - 380 006.

Edited & Published Bi- Yearly for : Indian Academy of Cytologists,
by : Dr. Prakash V. Patil, "Shanti', 8th Cross,
Dr. Radhakrishnan Road, Hindwadi, BELGAUM - 590 011.
Printed at : Yarbal Offset, Belgaum 590 008. Phones : 27952 , 25545

Dr. Tilde Kline

Our Guest

Graduated from Western Research School of medicine U. S. A. in 1958. Did her American Board Examinations in Anatomic and Clinical Pathology in 1963. Professor of Pathology at Thomas Jefferson University School of Medicine since 1979 and closely associated with Lankenau Hospital, Philadelphia, U. S. A. Interested in cytology since 1959. Has 75 publications to her credit of which 70 are in cytology. Her penmanship stands out by her review of 28 books & authorship to 4 books. Is associate editor of recently published Journal of ' Diagnositc Cytopathology'. Conducted workshops since 1975 in U. S. A., Canada, Mexico and South Africa.

I. A. C. Activities

Vidarbha Academy of Pathologists and Microbiologists oganised a scientific programme on "Update on Carcinoma Cervix" on 15-10-1988 at Govt. Medical College, Nagpur. Dr. Usha Saraiya delivered the guest lecutre on "Colposcopic evaluation and our experience with management of HPV infection" and moderated a symposium on "Recent advances in carcinoma cervix". Free papers were also presented. Dr. Shobha Grover, President of V. A.P. M. offered concluding remarks.

☆☆☆

The Indian Academy of Cytologists, Belgaum branch assisted the Inner Wheel Club and I. M . A Belgaum in conducting "Cervical Cancer Detection Camp" held on 16-10-1988 in Belgaum.

☆☆☆

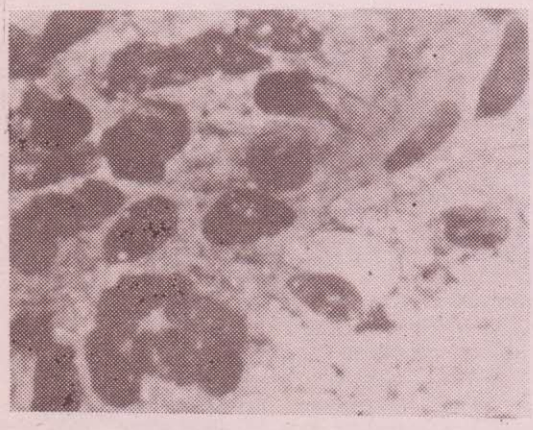
I. A. C. fellowships to pathologists for the year 1988 was offered to -

1. Dr. C. Raghuveer from K. M. C., Mangalore.
2. Dr. Rakesh Shrivastava from Nagpur.

☆☆☆

Dr. Prakash Patil and Dr. Shameen Shariff conducted a workshop on "Fine Needle Aspiration Cytology" during the 6th C. M. E. in Pathology at the Dept. of Pathology, J. N. Medical College, Belgaum, on 2nd June 1988.

SPOT THE DIAGNOSIS



Feature is compiled by :
Dr. Gita Jayaram,
Assistant Prof. of pathology,
Maulana Azad Medical College,
NEW DELHI - 110 002.

Short History of case :

19 years old male patient had massive hepatomegaly.
F. N. A. B. smear from liver (M.G.G. X 800)

Can you spot the diagnosis?

Send your answer to :
Dr. P. V. Patil,
Editor, I. A. C. Newsletter,
Shanti , 8th cross, Dr. Radhakrishnan Road,
Hindwadi, Belgaum - 590 011.

Write on envelope 'Spot the Diagnosis'

Answers should reach not later than 15th Feb. 1989. The first five correct entries opened on 16th Feb. 1989 will be announced in the next issue (April 1989)

Previous case Diagnosis

Adenoid Cystic Carcinoma, parotid gland.

Feature was compiled by :
Dr. Arvind Rajwanshi,
Asst. Prof.
Dept of Cytology and Gynaec. Pathology.
P.G.I., CHANDIGARH - 160 012.

Correct answer received from :

Dr. Vijay Kaul,
Asst. Prof. of Pathology,
SKIMS, SRINAGAR - 190 011.

Dr. R.Y. Shrikhande,
Wanless Hospital,
MIRAJ - 416 410.

Invited Article :

ASPIRATION CYTOLOGY OF THE THYROID GLAND

Dr. Shameem Shariff
Assistant professor of Pathology
St. John's Medical College, BANGALORE

Introduction :

Fine needle aspiration cytology (FNAC) of the thyroid which was initially popular only in Europe, is attaining importance as a diagnostic tool not only in the advanced countries like North America but also in third world countries as ours. We have been impressed by several of the aspects of this test including its accuracy in diagnosing non-malignant and malignant conditions of the thyroid, its reliability and its ease of performance. We believe that FNAC is probably the most accurate technique of selecting which thyroid nodules should be subjected to a surgical excision for a definitive diagnosis. FNAC also greatly decreases the number of unnecessary thyroid resections[1]. The following criteria outlined represent chiefly the analysis of cases performed at the Department of pathology, St. John's Medical College, in the various conditions of the thyroid gland, together with some observations seen in literature.

Observations :

Normal thyroid is not usually sampled. FNAC of normal thyroid yields a few follicular epithelial cells which occur as bare nuclei or rare tissue fragments with a scanty delicate granular cytoplasm. The characteristic chromatin pattern of these lymphocyte-sized nuclei is even and finely divided with presence of a small nucleolus. Colloid from normal follicles is not ordinarily observed.

Hyperfunctional glands (Grave's disease) on aspiration show moderate cellularity with cell sheets or aggregates. Occasional ring structures may be seen. A characteristic feature is the occurrence of abundant cytoplasm which is vacuolated at the periphery. This is well appreciated in alcohol fixed smears stained with Haematoxylin and Eosin (H & E). When viewed with the May-Grunwald-Giemsa (MGG) stain these vacuoles have a red colouration and are referred to as "flame cells" [2,3]. Similar changes may be seen in "hot" adenomas, hyperfunctional areas of both multinodular thyroids and benign macrofollicular adenomas. Another cytoplasmic feature seen in hyperthyroidism is the presence of paravacuolar granulation (PVG). These granules are coarse and eosinophilic in the H & E stain and appear dark and green black in the MGG stain. The source of PVG is not known, it is possibly of lysosomal origin. Variation in nuclear size is known to occur in hyperplasia[4] and if the disease is unsuspected this nuclear variation in size and the cellularity may impart a false impression of neoplasm.

Cysts : Thyroglossal duct cysts on aspiration yield a small amount of clear fluid which in many cases contains only inflammatory cells. Epithelial elements when present are represented mainly by squamous cells with or without nuclei and rarely columnar epithelial cells.

A benign or simple cyst from the thyroid usually yields brown fluid with foamy cells showing ingested debris and sparse epithelium. This has to be differentiated from a neoplasm with cystic change where neoplastic cells may show degenerative cytoplasmic changes[5].

Multinodular Goitre (MNT) : Cytologic presentation in MNT is as varied as its histology. Just as the histology may show large colloid lakes, regions of hyperplasia, variable normal to macro-sized follicles with areas of involution, so also, may the smears. These cytologic features may be represented equally or one pattern may predominate. On aspiration colloid may be obtained in the liquid form and this stains purple by the MGG stain and brown by the Papanicolaou stain. The quality or texture varies from thin and transparent to thick. or hyaline-like. Involutional areas are characterized by phagocytic cells containing haemosiderin pigment. Entire single follicles are represented by intact three dimensional structures with colloid in the center, on occasion these follicles may be bound together by fibrous tissue to form microbiopsies. When follicular structures are ruptured, epithelial elements are arranged in neat rows and columns of regular nuclei. Individual cells may show a degenerative foamy change in the cytoplasm. In majority of MNTs however the pattern is that of abundant colloid and/or involution.

The Clinical Uninodular thyroid : The "clinical uninodular thyroid" could have 3 major histological presentations - 1) Dominant nodule of MNT (2) Follicular adenoma (3) Follicular carcinoma.

Two types of adenomas can be identified by FNA; the simple colloid type which is more common or the foetal/embryonal or trabecular adenoma. The simple (colloidal) adenoma has many histological and cytological features in common with MNT in addition to which ruptured epithelium in the form of flat sheets with nuclei evenly dispersed in orderly rows and columns may be seen.

Microfollicular and trabecular adenomas (MFA, TA) have a distinctive presentation. These smears are cellular and lack the abundant watery colloid. A distinctive pattern in MFA is the presence of microfollicles; monolayered structures with nuclei arranged in a circular fashion around a syncitial mass of delicate cytoplasm. The trabecular pattern is identified as a solid serpiginous arrangement of disorderly placed nuclei. It is advisable to remove any mass which has a smear dominated by a microfollicular / trabecular pattern. A diagnosis of follicular neoplasm (FN) is made when these patterns are seen. This term includes an adenoma and a well differentiated follicular carcinoma.

Follicular Carcinoma : It is evident both from literature[6] and personal experience that well differentiated follicular carcinoma is so similar to benign microfollicular adenoma that FNAC cannot distinguish between them. Follicular carcinomas that are not so well differentiated however show increased nuclear size above 90 μ^2, nucleoli and chromocenters[7]. If the neoplasm is actively growing, necrotic debris can be seen in the background.

Papillary Carcinoma : has certain distinctive features and appearances that characterize it [8,9] - Psammoma bodies, nuclear inclusions, papillary groups with and without vessels and metaplastic cytoplasm (thick well-defined cytoplasm). Smears of papillary carcinomas are most often cellular. Other features also include cytoplasmic vacuoles, thick ropy colloid and giant cells.

The other malignancies that can occur in the thyroid and could be diagnosed by FNAC are medullary carcinomas [10], anaplastic carcinomas and lymphomas.

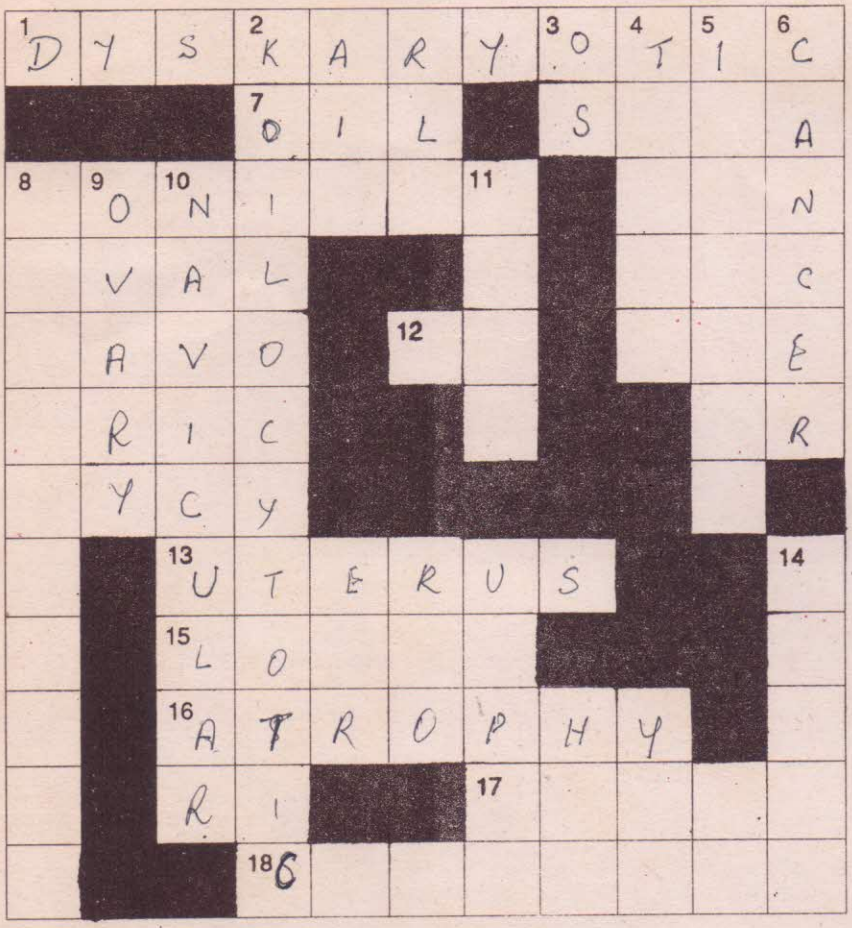
Chronic Thyroiditis : Hashimoto's thyroiditis is diagnosed without difficulty when its two histologic components, lymphoid cells and Hurthle cells are displayed by FNAC. FNAC here is a more accurate method of establishing diagnosis than thyroid antibody determination [11]. Lymphoid cells are seen as a heterogenous population of cells similar to those seen in reactive lymph nodes. In addition "blue blobs" may be seen which are small bluish structues, similar in size and shape to large platelets but lacking a granular cytoplasm. The other component of chronic thyroiditis is the follicular epithelium which undergoes an oxyphilic or Hurthle cell change. Epithelioid - like cells and giant cells are also a feature of Hashimoto's thyroiditis and may cause confusion with De Quervain's thyroiditis.

A diagnosis of florid lymphocytic thyroiditis is made when a lymphocytic element is cheifly seen.

FNAC on a subacute thyroditis is painful and yields a small amount of material with a few follicular elements, monocytic cells and lymphocytes. Crushed nuclei are seen. With a fully developed disease, giant cells may be seen in addition.

References :

1. Calacchio, T.A., Lo Gerto, P., and Feind C.R. : Fine needle cytologic diagnosis of thyroid nodules : Review and report of 300 cases. Am J Surg 140:568-571, 1980.
2. Soderstrom N, Nilsson C: Cytologic diagnosis of thyrotoxicosis. Acta Med. Scand. 205 : 263-265, 1979.
3. Nilsson G : Marginal vacuoles in fine needle aspiration biopsy smears of toxic goitres. Acta Pathol Microbiol Scand 80 : 289-293, 1972.
4. Nilsson G: Nuclear size classes in fine needle aspirates from toxic goitres. Acta Endocrinol. 70: 273-288, 1972.
5. Goellner JR, Johnson DA: Cytology of cystic Papillary Carcinoma of the thyroid. Acta Cytologica 26 : 797-799, 1982.
6. Luck JB, Mumaw VR, Frable WJ: Fine needle Aspiration Biopsy of the thyroid. Differential Diagnosis by Videoplan Image Analysis. Acta Cytologica, 26: 793-796, 1982.
7. Boon M, Lowhagen J, Williams JS: Planimetric studies on fine needle aspirates from follicular adenoma and follicular carcinoma of the thyroid. Acta Cytologica. 24 : 145-148, 1980.
8. Kini S.R, Miller JM, Hamburger JI et al: Cytopathology of papillary carcinoma of the thyroid by fine-needle aspiration. Acta Cytologica 24:511, 1980.
9. Christ M.L, Haja JH: Intranuclear cytoplasmic inclusions (invaginations) in thyroid aspirations: frequency and specificity. Acta Cytologica 23: 327-331, 1979.
10. Ljungberg O: Cytologic diagnosis of medullary carcinoma of the thyroid gland with special regard to the demonstration of amyloid in smears of fine needle aspirates Acta Cytologica 16: 253, 1972.
11. Crockford PM and Bain GO: Fine needle aspiration biopsy of the thyroid. Can Med Assoc J. 110:1029-1032, 1974.



CYTOLOGY CROSSWORD (1)

Across

1. Nuclear change causing anxiety.
7. Used for detailed microscopy of Bar Body.
8. Commonly found in Diabetics.
12. Rises with Estrogen therapy.
13. Site of jet washing.
15. Route of use of Podophyllin
16 A Feature of menopause.
17. Better use Ayre's spatulla for obtaining it
18. Changes observed by Hinselmann.

Down :

2. Changes commonly seen in HPV infection.
3. Target of Speculum examination.
4. Colleague of Papanicolaou.
5. Help to assess the hormonal status.
6. Crab.
8. Caused by Chronic irritation.
9. Organ responsible for cyclic changes.
10. Cells characteristic of Pregnancy.
11. Normal pH of vagina.
14. Jewel in Histology, no one would like to possess.

Compiled by
Dr. (Mrs.) C.P. Patil
Cytology clinic(AMWI) ,
Cama & Albless Hospital.
BOMBAY.