

CANCER CYTOLOGY

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Joint European Assembly on Cytology and Cancer Prevention

SOUVENIR PROGRAM

July 20-23, 1973

Kongresshaus

Salzburg, Austria

Welcome to the

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Salzburg, Austria

July 20-23, 1973



Helmut E. Fegerl, M.D., F.A.C.C.S.

President of the Pan American Cancer Cytology Society

and

President of the Joint European Assembly on Cytology and Cancer Prevention

The JOINT EUROPEAN ASSEMBLY is honored to have as President, Dr. Helmut E. Fegerl of Linz, Austria, a dedicated advocate of cytology and early cancer detection. Certified in obstetrics and gynecology, he is also highly skilled in colposcopy and phase contrast microscopy. He and Mrs. Fegerl have travelled extensively and Dr. Fegerl was visiting lecturer at Memorial Hospital, New York, Mayo Clinic, Rochester, Minnesota, Doctor's Hospital, St. Petersburg, Florida and Creighton University, Omaha, Nebraska. Dr. Fegerl has been active in the Pan American Cancer Cytology Society since 1965 and participated in the last two congresses. He is a Member of the Cytology Society of Austria, the Medical Society of Upper Austria, the Austrian Cancer Society and the International Association of Preventive and Social Medicine.

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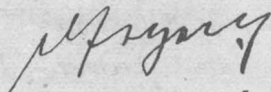
My countrymen join me in extending to all of you a most cordial welcome to participate in the Joint European Assembly on Cytology and Cancer Prevention. Salzburg is proud to play host to this illustrious group. Many call it their favorite European city and we hope you will enjoy all of its varied attractions.

At this clinical congress many disciplines will be presented -- cytology, colposcopy, biochemistry, virology, immunology and others. In this instance, all are aimed at achieving one of mankind's most urgent goals, the early detection, successful treatment and cure of cancer.

As we meet only once every three years it is exciting to review the advances that have been made against this dread disease since our last congress in the West Indies. Headlines throughout the world have announced dramatic breakthroughs and many optimistically predict that the conquest of cancer is now in sight. This is something we all hope and pray for.

Our program promises many new and encouraging reports. We invite free and open discussion in a spirit of international good will.

It is our sincerest wish that this congress will prove to be a most enriching and rewarding experience for all.



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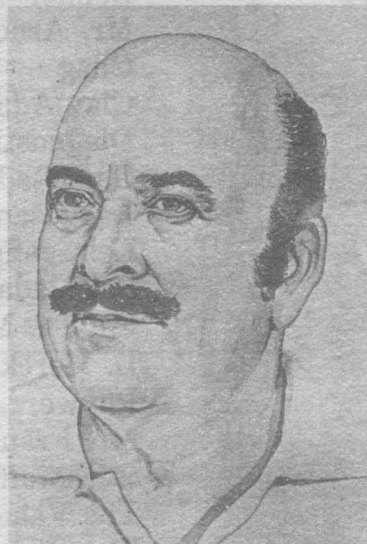
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Dr. Ayre was Founding President of the Pan American Cancer Cytology Society and is presently Medical Director of the National Cancer Cytology Centers in Melville, New York and Miami, Florida.

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ABSTRACTS are listed alphabetically by senior author's name

IMMUNOTHERAPY OF CARCINOMA "IN SITU" OF THE CERVIX-UTERI

Gabriel Alvarez-Fuertes², M.D., Roberto Medina-Santillan¹, M.D., Marta Suarez-Alvarado¹, QBP, David Fragoso-Lizalde³, M.D., Oscar Antunez-Carrillo², M.D., Jose Arias-Huerta³, M.D., Arnulfo Gomez-Palacio³, M.D., Guillermo Carvajal^{1*}, D. Sc.

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By means of cytological smears and biopsies, 19 cases of carcinoma "in situ" of the uterine cervix were diagnosed. All of them received from 2 to 19 injections of a conjugate of antigen obtained from a cervical carcinoma, with rabbit gamma-globulin coupled by means of bis-diazobenzidine.

Immunization was done intradermally with doses of 6 mg of the insoluble conjugate emulsified with the incomplete adjuvant of Freund, in the first injection and without the adjuvant in subsequent immunization.

Results of the work was judged from the careful histological study of the surgical piece after conization, or hysterectomy. Five of the 19 patients showed no tumor and 6 showed dysplasia of the cervical epithelium that we considered to be phenomenon of gradual regression; 8 patients had persistent carcinoma "in situ".

It is important to note that no case progressed to invasive carcinoma.

During the course of the study the appearance of cellular immunity was confirmed from the first week of treatment, humoral immunity appeared later, between 2 to 4 months after initiating treatment. In the repeated cytological smears previous to treatment, a cytological pattern of carcinoma "in situ" was established in each of the cases, later, during the course of the treat-

ment, cellular alterations were observed that appeared in each of the patients during treatment with the coupled antigen; in this way and as a comparison, information was obtained of the cytological alterations that could be considered as characteristic in cases with immunotherapeutic treatment. The cellular alterations were mainly: emperipolesis, fragmentation of cromatin, karyorrhexis as nuclear phenomena, and vacuolization and alteration in cytoplasmic density as cytoplasmic changes. The cell type in the cases of carcinoma "in situ" that obtained regression and disappearance of tumor ranged from small cell, large irregular cells, to cells of the Bowenoid type.

*Fellowship holder of the: Sección de Especialización Docente e Investigación Científica y Tecnológica of the Comisión de Operación y Fomento de Actividades Académicas of the Instituto Politécnico Nacional.
Mexico City, Mexico

THE CYTOLOGIC DIAGNOSIS OF ENDOMETRIAL ADENOCARCINOMA

David G. Anderson, M. D.

University of Michigan Medical School
Department of Obstetrics and Gynecology
Ann Arbor, Michigan

An outpatient diagnostic technique comparable to the Papanicolaou smear for carcinoma of the cervix is needed to permit early recognition of adenocarcinoma of the endometrium. Four techniques to sample the cytology of the endometrial cavity were evaluated in patients at the University of Michigan Medical Center--saline irrigation with an antrum cannula, endometrial brush cytology, high vacuum aspiration and the Gravlee jet washer. All cytologic specimens were compared with operative curettings of the endometrium obtained at the same time as the cytologic specimen.

Of 1,251 patients studied by the saline irrigation technique there was agreement of the exfoliated cell sampling with the curettings in 72% of patients. However, 17% of all smears obtained were unsatisfactory. Four percent of patients had positive smears, there was a 4% incidence of false positive smears, 1% of patients had false negative smears and 2% of patients had suspicious smears in which the presence of neoplasm could neither be confirmed or ruled out. In the total of 64 patients in this study group who had endometrial adenocarcinoma, 45 patients were accurately diagnosed by saline irrigation of the endometrial cavity. Of the 19 patients in whom the diagnosis of cancer was missed, 12 patients had false negative smears and 7 patients had neoplasm which was not recognized in an unsatisfactory or a suspicious smear.

In 191 patients studied by sampling the endometrial cavity with an endometrial brush, there was agreement in 62% of specimens with the endometrial curettings. However, 32% of the specimens obtained were unsatisfactory.

Four percent of patients had positive cytology, each lesion diagnosed by a fragment of tissue rather than individual cells. While there were no false positive reports in this series, 2% of patients had false negative cytology. Of 11 neoplasms present in these 191 patients, 7 were diagnosed by this technique.

Of 122 patients studied using high vacuum aspiration of the endometrium a positive correlation between the aspirant and the curettings occurred in 66% of cases with a 5% incidence of positive cytology. The sample was unsatisfactory for cytologic interpretation in 25% of the patients. One patient had a false positive and 3% of patients had false negative aspirants. In the 122 cases studied by this technique, neoplasm was diagnosed in only 6 of 10 patients.

In an additional 147 patients the Gravlee jet washer was evaluated and found to be of no greater accuracy in sampling the endometrium than the previously described techniques. While the positive correlation between aspirant and curettings was adequate, the cytologic preparations, obtained by filtration, centrifugation and cell block methods, yielded unsatis-

factory samples and also missed diagnoses in too high a percentage of patients to give confidence in recommending this technique as a screening test.

None of these four methods proved to be accurate enough to be used as a routine screening test. In our experience endometrial biopsy using a suction or basket curette is the only diagnostic tool short of dilatation and curettage which permits accurate diagnosis.

**CIGARETTE SMOKING IS NOT THE CAUSE OF CANCER
CANCER IS CAPABLE OF CHOOSING ITS SITES**

Luben G. Angeloff

**Medical-Biochemical Research
Laboratory, Montreal, P.Q.,
Canada**

The objectives of these studies were to investigate the effects of tobacco extracts (nicotine and tar) on ascites tumor cells of Novikoff (Hepatoma). The studies were carried out on white Wistar rats, rat lung and spleen slices under different biological conditions with and without tobacco extracts, and three generations of cancer families of rats with Walker 256 (Carcino sarcoma).

(a) Three series of studies were performed on young inbred white Whistar rats of both sexes which were injected IP with tumor cells of (Hepatoma) approximately 5×10^6 . Control Group I had a mortality rate of 100%; the rats of Group II, whose tumor cells were mixed with 0.03 mg nicotine plus 0.5 mg tar, had a mortality rate of 66.66%; and the rats of Group III, whose tumor cells were mixed with 0.05 mg nicotine plus 0.75 mg tar, had a mortality rate of 33.33%.

(b) DNA, RNA and protein synthesis on rat lung and spleen slices with Hanks' TC 199 buffer at pH of 7.4, 5.0,

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and 9.0 with and without tobacco extracts were studied using denine-8¹⁴ C and leucine-1¹⁴ C as tracers. No significant differences were noted between the control and experimental groups of slices.

(c) Three generations of cancer families of rats were observed and it was noted that the mortality from lung cancer was 66.66% for each of both sexes.

From the data obtained, it may be seen that tobacco extracts did not stimulate the growth of ascites tumor Novikoff (Hepatoma) but inhibited its development. Neither

did the tobacco extracts produce any changes in the values of DNA, RNA and protein synthesis in rat lung and spleen slices.

However, the present studies indicate that cigarette smoking is not the cause of cancer - cancer is capable of choosing its sites.

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OBSERVATIONS OF INDUCED INTERFERON ACTION UPON CELLS OF HUMAN INTRAEPITHELIAL CANCER OF CERVIX

J. E. Ayre and R. Narvaez

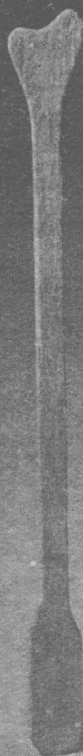
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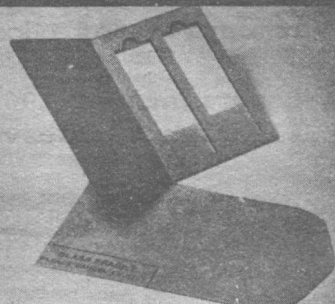


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
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into the surface lesion. Changes were observed in tumor cells collected by exfoliative cytology using The Ayre Cerviscraper. Tumor cells were repeatedly characterized by 'punched-out' holes in the nuclei, vacuoles in the cytoplasm, and the elimination of nuclear DNA in altered cells. No changes were observed in normal cells and tissues using the same method. A high local concentration of Poly I:C in the region of the localized in situ lesions, it is believed, leads to interferon production by cells in or adjacent to the cancer, producing antiviral influence presumably affecting viral components in tumor cells. In previous studies of antitumor effects of Poly I:C in advanced human malignancies, it was concluded by other investigators that the concentration throughout body tissue was too low to affect recognizable changes in tumors. Poly I:C is regarded as a significant experiment directly upon tumor cells revealing effects of interferon upon human cells of this early cancer type.

EFFECTS OF TUMOR PROTEIN ANTIGEN AND BCG ON "IN SITU" AND ADVANCED MALIGNANCIES

J. Ernest Ayre, Romeo Narvaez, M. Modica

National Cancer Cytology Center
Melville, New York

C. W. Post Centre, Long Island University
Greenvale, New York

Various modes of cancer immunotherapy were tested on two totally different patient populations. The immune response was measured by means of exfoliative cytology, colposcopy, immunodiagnostic serology studies, biopsies in selected stages, and clinical examination.

The first series comprised 29 cases of cervical carcinoma in situ. This unique stage of cancer proves to be an ideal research model because of safety and ease of collection of cells for microscopic study, which provide objective, precise evidence of changes occurring at the cellular level.