

When we saw him in 1970 the serum calcium was 6.2, and the phosphorus 5.8 mg per 100 ml. Laminagrams of the skull showed marked calcification of the basal ganglia. Treatment with calciferol was initiated.

Therefore, we fully agree with Tabae-Zadeh et al that extrapyramidal motor dysfunction should result in a screening for hypoparathyroidism.

N. J. B. CHRISTIANSEN, M.D.

P. FROM HANSEN, M.D.

Glostrup, Denmark

Copenhagen County Hospital

ACTH VS CRF-LIKE SECRETION BY TUMORS

To the Editor: In the issue of August 19, 1971, Upton and Amatruda reported the isolation from an oat-cell carcinoma of the lung and from a pancreatic tumor of peptides that on bioassay were shown to contain not only ACTH but also corticotropin-releasing activity ("CRF-like").¹ Both patients from whom the tumors were obtained had the so-called "ectopic ACTH syndrome," usually regarded as Cushing's syndrome owing to secretion of ACTH by neoplasms of nonendocrine tissue, with consequent adrenocortical oversecretion of cortisol.² The observations of Upton and Amatruda raise the further possibility that these tumors exerted some part of their adrenocorticotrophic effect by stimulating endogenous pituitary release of ACTH,³ a possibility suggested by others^{4,5} at a time when the prevailing view was that the increased frequency of tumors in Cushing's syndrome was perhaps secondary to hyperadrenocorticism.⁶

Concerning the possible physiologic role of CRF activity in such hormone-secreting tumors, two points are worth making. First of all, the existing fragmentary evidence suggests that CRF activity of these tumors is quantitatively less important than their ACTH activity. Meador et al³ showed that pituitary ACTH content was subnormal and considerably below that observed in the neoplasms a finding that suggests if it does not prove that the sequence of secretion of ACTH by tumor → cortisol oversecretion by adrenal cortex → suppression of pituitary ACTH overrode the sequence of events of secretion of CRF by tumor → oversecretion of ACTH by pituitary → oversecretion of cortisol by adrenal cortex. Secondly, it is true that these hormone or hormone-like-secreting tumors are not completely autonomous. The patient of Upton and Amatruda showed some suppression of steroid excretion by dexamethasone and a considerable response to metyrapone.¹ Such observations have now been made in several patients with "ectopic ACTH syndrome." Some behave as if they were autonomous, like adrenal tumors; others behave like the pituitary-dependent form of the disease; and still others behave in an intermediate fashion.⁶

These findings, of course, do not permit a distinction between an ACTH and CRF function of the tumor, but Upton and Amatruda have made a valuable and exciting contribution by demonstrating a still greater versatility of the "hormone-secreting" tumors.^{1,4,5}

NICHOLAS P. CHRISTY, M.D.

New York, N.Y.

Roosevelt Hospital

1. Upton GW, Amatruda TT Jr: Tumor peptides with CRF-like activity in the ectopic ACTH syndrome. *N Engl J Med* 285:419-424, 1971
2. Meador CK, Liddle GW, Island DP, et al: Cause of Cushing's syndrome in patients with tumors arising from "nonendocrine" tissue. *J Clin Endocrinol Metab* 22:693-703, 1962
3. Abbott EN, Skelton MO: Increased adrenocortical activity associated with malignant disease. *Lancet* 2:278-284, 1960
4. Christy NP: Adrenocorticotrophic activity in the plasma of patients with Cushing's syndrome association with pulmonary neoplasms. *Lancet* i:85-86, 1961
5. Plotz CM, Knowlton AI, Ragan C: The natural history of Cushing's syndrome. *Am J Med* 13:597-614, 1952
6. The Human Adrenal Cortex. Edited by NP Christy. New York, New York, Harper and Row, 1971, pp 359-394

MALIGNANT MESOTHELIAL TUMORS — HISTOLOGIC TYPE AND ASBESTOS EXPOSURE

To the Editor: Malignant pleural and peritoneal mesotheliomas have been shown to be associated with exposure to asbestos at work and in the home.^{1,2} In a survey of 42 cases diagnosed in a shipyard area 75 per cent patients had been occupationally exposed to asbestos,³ and of 83 patients from a hospital near a London asbestos-products factory, 53 per cent had a history of occupational or domestic exposure. In Scotland, 57 per cent of definite or probable exposures in 80 cases (73 men and seven women) were reported.⁴ In a national survey in Canada⁵ the proportion of patients with mesotheliomas was lower — 20 per cent of 100 male and 2 per cent of 50 female patients who had definitely or probably been occupationally exposed to asbestos. Occupations especially associated with mesothelioma include insulation work⁶ and asbestos-products manufacture^{6,7} whereas persons exposed to pure chrysotile asbestos in mining and milling have a low rate of mesothelioma.⁸ It is possible that in insulation work and asbestos-products manufacture, other types of asbestos (e.g., crocidolite and amosite) or other carcinogenic substances may be responsible for the greater risk.

Primary mesothelial tumors may not easily be distinguished from metastatic tumors histologically, and, for assured diagnosis, full autopsy to eliminate other primary tumors has been advocated. In keeping with the multipotentiality of mesothelial cells,⁹ the histologic pattern of mesotheliomas is variable. Three histologic types have been described — epithelial, mesenchymal and mixed.¹ Among mesotheliomas the last named type is relatively common. Hourihane found that 41 per cent of a series of cases occurring in a London hospital between 1917 and 1962 were of this type.¹⁰ Churg et al described nine mixed tumors among 30 cases considered to be asbestos related, however, in 12 evidence of exposure was limited to the finding of asbestos bodies in the lung.¹¹ Thompson, in South Africa, found that 12 of 17 cases were of the mixed type.¹²

In the Canadian survey, the histology of 115 of the 165 mesotheliomas reported from all parts of the country between January, 1960, and June, 1968, was reviewed by six pathologists, members of the Mesothelioma Panel of the Canadian Tumor Reference Centre. Decisions regarding diagnosis were made without knowledge of the occupational and environmental histories. The majority opinion was taken as the panel opinion. Of the 115 cases reviewed, 62 were accepted by the panel, and of these 59 had a full standard occupational and environmental history obtained in an objective manner.¹ In addition, of 71 cases subsequently registered across Canada between July, 1968, and December, 1970, 42 were accepted by the panel as mesotheliomas, and 40 had a full occupational and environmental history. The 99 accepted cases with occupational history were subsequently classified into the three main histologic types by one of us (D.M.) without knowledge of sex or occupational history. The findings according to histologic type and history of asbestos exposure are shown in Table 1.

Table 1. Histologic Types of Mesothelial Tumors in Relation to Asbestos Exposure.

HISTOLOGIC TYPE	ALL CASES	PATIENTS WITH DEFINITE OR PROBABLE EXPOSURE		
		TOTALS	OCCUPATIONAL	DOMESTIC
Males:				
Epithelial	26	3 (11.5%)	3	—
Mesenchymal	17	3 (17.6%)	3	—
Mixed	24	11 (45.8%)	10	1
Females:				
Epithelial	19	1 (5.2%)	—	1
Mesenchymal	11	1 (9.1%)	—	1
Mixed	2	1 (50.0%)	—	1

PLAINTIFF'S EXHIBIT

DOW-1619

1. Mills JA, Pinals RS, Ropes MW, et al. The value of bed-rest in patients with rheumatoid arthritis. *N Engl J Med* 284:453-458, 1971.
2. Partndge REH, Duthie JJR. Controlled trial of the effect of complete immobilization of the joints in rheumatoid arthritis. *Ann Rheum Dis* 22:91-99, 1963.
3. Duthie JJR, Thompson M, Weir MM, et al. Medical and social aspects of the treatment of rheumatoid arthritis. *Ann Rheum Dis* 14:133-149, 1955.
4. Zeller JW, Waite H, Jellinek K. Sanatorium management of rheumatoid arthritis. *JAMA* 186:1143-1149, 1963.
5. Kerten L. Should your hospital have an Arthritis Midway House. *Hosp Practice* 4:66-77, 1969.

KIDNEY IN PROGRESSIVE LEUKOENCEPHALOPATHY

To the Editor: The finding of unexplained proteinuria in the case of progressive multifocal leukoencephalopathy associated with chronic lymphocytic leukemia recently discussed by Dr. Edward P. Richardson (Case 19-1972) may be of importance in the future investigations of the viral nature of progressive multi-focal leukoencephalopathy. The elegant studies of Oldstone and Dixon,^{1,2} as well as others,^{3,4} indicate that the glomerular capillary may be the site of deposition of antiviral-viral immune complexes in chronic viral diseases, including those that principally affect the central nervous system. Immunofluorescent studies of the nature of the glomerular deposits of putative viral antigen or antiviral antibody in diseases of the central nervous system thought to be mediated by viruses might provide further evidence of the etiology of these diseases. Elution of antibody from homogenized kidney fragments might provide a reagent for the detection of antigen in the brains of similarly affected patients.

RICHARD J. GLASSOCK, M.D.
Harbor General Hospital

Torrance, Cal.

1. Oldstone MBA. Autoimmunity in viruses — fact or fiction. *Am J Clin Pathol* 56:299-302, 1971.
2. Oldstone MBA, Dixon FJ. Pathogenesis of chronic diseases associated with persistent lymphocytic choriomeningitis viral infection. *II J Exp Med* 131:1-19, 1970.
3. Gajdusek DC. Slow virus diseases of the central nervous system. *Am J Clin Pathol* 56:320, 1971.
4. Hotchin J. Virus, cell surface and self-lymphocytic choriomeningitis in mice. *Am J Clin Pathol* 56:333-349, 1971.

The above letter was referred to Dr. Richardson who offers the following reply:

To the Editor: Dr. Glassock's idea is an interesting one, and certainly all possible ways of arriving at more complete knowledge of this disease are to be welcomed. A search for antigen-antibody complexes in the glomeruli of patients with progressive multifocal leukoencephalopathy could well be part of a complete post-mortem study, and in a patient suspected of having the disease who had persistent proteinuria, renal biopsy in a search for these complexes might be justifiable. The most urgent need, however, still is to my mind, the isolation and identification of the agent in the brain, and I have suggested that brain biopsy for this purpose was justifiable. Of course, studies in brain tissue would not preclude simultaneous investigations of renal tissue, along the lines suggested by Dr. Glassock, in appropriate cases.

E. P. RICHARDSON, JR., M.D.
Boston, Mass. Massachusetts General Hospital

KIDNEY TRANSPLANT IN SEVEN-YEAR-OLD TWINS

To the Editor: We read with interest Professor Curran's comments on the legal aspects of the kidney transplant that we performed between two seven-year-old identical twin girls. He gives emphasis to the evidence presented by a clerg-

yman on the morality of the decision and concludes by saying that justice was done in Connecticut.

There is an aspect of the situation that has not been discussed — namely the attitudes of the physicians involved and the ethical considerations in performing the operation even with legal consent. Several leading transplant centers were polled by Judge Testa about their attitudes regarding the procedure. Their unanimous opinion seemed to be that although the procedure was scientifically sound, the physicians concerned would not themselves undertake a transplant between identical twins of this age. Some thought that it was morally wrong to remove a kidney from a healthy child for transplantation in that the child was not old enough to understand the full consequences of what she was giving her consent to. Others considered the risks not justified.

We were of the opinion, on the other hand, that this modality of treatment was the best available and felt morally obliged to respond positively to the wishes of the parents and the family, although perhaps an immature wish on the part of the donor and recipient. Personal acquaintance with this particular family we believe would undoubtedly have persuaded others to our point of view. This judgement has fortunately been justified in that we have achieved an excellent result. We have all received numerous verbal and written marks of appreciation from the now exuberant donor and recipient.

BERNARD LAYTON, M.D.
MARTIN SCHIFF, JR., M.D.
ROBERT S. BROWN, M.D.
BARRY STRAUCH, M.D.

New Haven, Conn.

Yale University School of Medicine

The above letter was referred to Professor Curran who offers the following reply:

To the Editor: I was very pleased to see the letter from the physicians at Yale who performed the transplant surgery in the Connecticut case. The poll of transplant centers referred to in the letter is not mentioned at all in Judge Testa's opinion. I am rather surprised at the apparent reluctance expressed by such centers to perform such procedures.

These questions of the moral and ethical basis for medical and scientific action bother us all. There seems to be a need for the development of a more effective "public philosophy," as Walter Lippmann called it, in the field of medical ethics. In the absence of such principles and a forum for their development and interpretation, we are left with the courts of law as our only resource in individual cases.

WILLIAM J. CURRAN, J.D., S.M., HYG.
Boston, Mass. Harvard School of Public Health

CHOREIFORM MOVEMENTS IN HYPOPARATHYROIDISM

To the Editor: The case report by Tabaei-Zadeh, Frame and Kappahn ("Kinesio-genic Choreoathetosis and Idiopathic Hypoparathyroidism," *N Engl J Med* 286:762-763, 1972) describing kinesio-genic choreoathetosis in a patient with idiopathic hypoparathyroidism and basal-ganglion calcification called our attention to a similar case seen by us in 1970.

The patient, who was born in 1942 had experienced grand-mal seizures since he was 2½ years old. He was treated by antiepileptics, and the grand-mal attacks subsided.

From the age of 15 spells of choreiform movements appeared, often after physical activities as bicycling. The choreiform movements involved the head, arms and legs and often were so vigorous that the patient lost his balance and fell to the ground. There were no premonitory symptoms and he was not unconscious during these attacks.

Two (6.3 per cent) of the 32 mesothelial tumors in females were classified as mixed as compared with 24 (35.8 per cent) of the 67 in males. Six of the 10 occupationally exposed men with mixed tumors had worked in insulation or asbestos-products manufacture as compared with one of the six men with epithelial or mesenchymal tumors. The findings suggest that mixed mesothelial tumors were specially associated with asbestos exposure. If confirmed, this observation would help differentiate asbestos-related tumors from others of unknown etiology.

DESMOND MAGNER, M.D.
Canadian Tumor Reference Centre
National Cancer Institute of Canada
University of Ottawa
Ottawa, Ontario, Canada
ALISON D. McDONALD, M.D.
McGill University
Montreal, Quebec, Canada

1. Wagner JC, Sleggs CA, Marchand P. Diffuse pleural mesothelioma and asbestos exposure in the North Western Cape Province. *Br J Ind Med* 17:260, 1960
2. Elmer PC, McCaughey WTE, Wade OL. Diffuse mesothelioma of the pleura and asbestos. *Br Med J* 1:350, 1965
3. Newhouse ML, Thompson H. Mesothelioma of the pleura and peritoneum following exposure to asbestos in the London area. *Br J Ind Med* 22:261, 1965
4. McEwen J, Finlayson A, Mair A, et al. Mesothelioma in Scotland. *Br Med J* 4:575, 1970
5. McDonald AD, Harper A, El Attar OA, et al. Epidemiology of primary mesothelial tumours in Canada. *Cancer* 26:914, 1970
6. Selikoff IJ, Hammond EC, Churg J. Mortality experiences of asbestos insulation workers 1943-1968. Proceedings of the International Conference on Pneumoconiosis, Johannesburg, 1969, p 180
7. McDonald JC, McDonald AD, Gibbs GW, et al. Mortality in the chrysotile asbestos mines and mills of Quebec. *Arch Environ Health* 22:677, 1971
8. Young JS. The experimental production of metaplasia and hyperplasia in the serosal endothelium and of hyperplasia in the alveolar epithelium of the lung of the rabbit. *J Pathol Bacteriol* 31:265, 1928
9. McCaughey WTE. Criteria for diagnosis of diffuse mesothelial tumors. *Ann NY Acad Sci* 132:603, 1965
10. Hourihane DO'B. The pathology of mesotheliomata and an analysis of their association with asbestos exposure. *Thorax* 19:268, 1964
11. Churg J, Rosen SH, Moolten S. Histological characteristics of mesothelioma associated with asbestos. *Ann NY Acad Sci* 132:614, 1965
12. Thompson JG. The pathological diagnosis of malignant mesothelioma of pleura and peritoneum. Proceedings of the International Conference on Pneumoconiosis, Johannesburg, 1969, p 150

BOOK REVIEWS

Clinical Embryology for Medical Students. By Richard S. Snell, M.D., Ph.D. 360 pp., illustrated. Boston: Little, Brown and Company, 1972. \$10.00

This is an excellent book for the medical student who is not familiar with human organ and system development. The illustrations are diagrammatic and plentiful. They are very clear to one who already understands the subject, but they may convey a false sense of simplicity to the student who has never looked at an embryo.

The book is fundamentally a condensation of classic morphologic embryology. As a result, it tends toward generalizations that are true but need some specific illustration. The "references" are not cited in the text and should have been called "additional reading."

Gestational timing is somewhat neglected; most of the illustrated stages of organ development have no indication of embryonic age or size. Witschi's time scale of human developmental stages is not mentioned, nor is there a discussion of the relation between the time of teratogenic insult and developmental stage.

The last chapter on incidence and etiology of malforma-

tions would be improved by a tabulation of specific known etiologic agents. The chapter seems to be written for the intelligent layman rather than for the future physician.

In spite of these weaknesses the book will be a useful text. It is well indexed and has a striking cover that will make the volume hard to ignore.

STEPHEN W. GRAY, Ph.D.

The Shoulder and Neck. By James E. Bateman, M.D., F.R.C.S. (C) 315 pp., illustrated. Philadelphia: W.B. Saunders Company, 1972. \$22.50.

This large volume reflects the author's vast experience with all the problems of the shoulder and neck. He has attempted to provide a comprehensive review of the problems by dividing the book into sections based on a clinical approach to a regional area, a unique and useful method.

The first section, on basic sciences, is excellent, but perhaps more detailed discussion of nerve pathways and relations would be of value. The next, on investigation and diagnosis, is particularly of value in suggesting history to be obtained, physical diagnosis to be done, and organization of patients' problems. The third, entitled, "Clinical Syndromes," is an excellent portion that tries to assign diagnosis to particular types of pains and patient complaints. I believe this approach is of great use in the upper extremity. The fourth section deals with trauma of the head and neck, and, again, the approach is unusual since the classification is by etiologic circumstances such as automobile accidents and athletic injuries. "System Disorders of the Shoulder and the Neck," the fifth section, gives a good, concise review of specific disorders of the muscles and neurological systems including medical conditions commonly met by the orthopedic surgeon. The sixth section, on tumors of the shoulder and neck, is also a worthwhile concise review of tumor problems in this area, with some useful operative procedures mentioned. The last section, entitled "Disability Evaluation of the Shoulder and the Neck," is perhaps the most useful. The philosophical approach is of value for all physicians, and the evaluation methods and references are of great value to any physician who faces the problems listed in the book.

The printing of the book needs corrections. Several illustrations are incorrectly labeled, and the anatomic specimens pictured would be much improved by greater use of labels on the pictures to fit the legends. The unique division of topics often necessitates referral elsewhere in the book for relevant discussion.

The book is an excellent attempt at a new approach to the discussion of regional problems. Its strong point is the useful organization of pathology. I believe a second printing allowing some changes, particularly in the illustrations, would be of much greater value and would correct the weak points.

J. PAUL HARVEY, JR., M.D.

The Alcoholic Patient in Surgery. By Albert B. Lowentels, M.D. 268 pp., illustrated. Baltimore: Williams and Wilkins, 1971. \$14.00

In this extended review of the problems of the alcoholic patient as seen by an attending surgeon, a tremendously ambitious task has been undertaken. The author attempts to define an alcoholic, review the metabolism and pharmacology of alcohol, touch on the psychiatric background of alcoholism and then take up individually the innumerable clinical problems associated with many systems of the body that are directly or indirectly generated by the use of alcohol. To accomplish all of this in 300 pages means of necessity that the presentation must be brief and superficial in almost every area, as is in fact true: the reader will not find any pursuit in depth of any subject ranging from rhinophyma or "brandy nose" to the withdrawal syndrome as it affects surgi-

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cal patients. The style is staccato, and the analyses simplistic. Nonetheless, the volume does provide a handbook in which a clinical surgeon can review in almost outline form the multiple problems that he may encounter in his alcoholic patients. For this purpose, the book is useful, but it certainly does not provide any more than a skeletal outline of any of the tremendously complicated clinical problems associated with the ingestion of large amounts of alcohol over a long period.

WILLIAM V. McDERMOTT, JR., M.D.

BOOKS RECEIVED

The receipt of the following books is acknowledged, and this listing must be regarded as sufficient return for the courtesy of the sender. Books that appear to be of particular interest will be reviewed as space permits.

BIO AND PHYSICAL CHEMISTRY

Molecular and Cellular Repair Processes: Fifth International Symposium on Molecular Biology, sponsored by Miles Laboratories, Johns Hopkins Medical Institutions, Baltimore, Maryland, June 3-4, 1971. Edited by Roland F. Beers, Jr.; Roger M. Herriott; and R. Carmichael Tilghman. 269 pp., illustrated. Baltimore: Johns Hopkins Press, 1972. \$17.50.

CARDIOVASCULAR SYSTEM

Diagnosis of Peripheral Vascular Diseases, By A. Kappert, M.D., and T. Winsor, M.D. 308 pp., illustrated. Philadelphia: F. A. Davis Company, 1972. \$32.00.

Heart Block, By Richard S. Cosby, M.D., and Michael Bilitch, M.D. 251 pp., illustrated. New York: McGraw-Hill Book Company, 1972. \$12.95.

Introduction to Electrocardiography, Second edition. By Thomas M. Blake. 218 pp., illustrated. New York: Appleton-Century-Crofts (Division of Meredith Corporation), 1972. \$7.50.

Practical Electrocardiography, Fifth edition. By Henry J.L. Marriott, M.D. 325 pp., illustrated. Baltimore: Williams and Wilkins, 1972. \$10.50.

NONCLINICAL NOTES

NEW ENGLAND ROENTGEN RAY SOCIETY

At the Annual Meeting of the New England Roentgen Ray Society, Inc., held on May 19, 1972, the following officers were elected for the year, 1972-73: President — Morris Simon, M.D., Boston, President-Elect — Ferdinand A. Salzman, M.D., Boston, Vice-President — Marjorie LeMay, M.D., Brookline, Secretary — Stefan C. Schatzki, M.D., Brookline, Treasurer — Murray Janower, M.D., Worcester, Chairman of Executive Committee — James B. Dealy, Jr., M.D., Boston, Robert M. Lowman, M.D., New Haven, Lloyd E. Hawes, M.D., Boston, and Majie S. Potsaid, M.D., Boston.

NOTICES

COURSE IN ANESTHESIA AND URGENT MEDICAL CARE

A course in anesthesia and urgent medical care, presented by Harvard Medical School, will be held at the Beth Israel Hospital, Brookline, October 14, from 9:00 a.m. to 5:00 p.m., under the direction of Leroy D. Vandam, M.D., and John Hedley-Whyte, M.B. This one-day course is designed to present an intensive review of both the scientific and clinical bases of the modern practice of anesthesia, surgery and urgent medical care. The special aspects of physiology and pharmacology of the acutely sick patient will be reviewed. Presently available techniques for monitoring of the acute emergency patient will be discussed. Treatment of clotting disorders, neurosurgical trauma and relative overdose of drugs will be considered. The registration fee is \$45.

Further information and application forms may be obtained from Associate Dean, Department of Continuing Education, Harvard Medical School, 25 Shattuck Street, Boston, Massachusetts 02115.

COURSE IN PROCTOLOGY

A course in proctology, sponsored by the Division of Colon and Rectal Surgery of the Department of Surgery of the University of Minnesota Medical School in co-operation with the Minnesota Academy of Physicians, will be held at the Nolte Center for Continuing Education on October 23-27, 1972. The registration fee is \$160.

Further information may be obtained from the Office of Postgraduate Medical Education, University of Minnesota Medical School, Box 193, Minneapolis, Minnesota 55455, or telephone (612) 373-8012.

POEMS BY PARK J. WHITE

A collection of the poems of Dr. Park J. White that have appeared in the *Journal* over the years has been printed privately. The volume, entitled "Verse and Verse: Lifting along paths medical and otherwise with Park J. White, M.D.," has been published for the St. Louis Children's Hospital, 500 S. Kingshighway, St. Louis, Missouri 63110, from which copies may be ordered at \$2.50 each. Funds accrued will be used to support the Hospital library.

PEDIATRIC FELLOWSHIPS

Pediatric fellowships at the Mental Retardation Institute, a multidisciplinary University-Affiliated Training Center, New York Medical College, Valhalla, New York, are available with stipends for periods of one or two years. Under the direction of Margaret J. Giannini, M.D., F.A.A.P., these are full-time programs in the pediatric aspects of mental retardation, including the disciplines of neurology, rehabilitation, psychology, psychiatry, audiology and speech, pathology, genetics, endocrinology and metabolism. Basic sciences are included and integrated at all levels.

Two years of pediatric residency and American citizenship, or declaration of intention for citizenship, are required.

Further information may be obtained from Emanuel Chusid, M.D., F.A.A.P., Director of Medical Services and Training, Mental Retardation Institute, New York Medical College, Valhalla, New York 10595.

PROGRAMS IN MEDICINE

The eighth annual "Frontiers of Medicine Series," sponsored by the Committee on Continuing Medical Education of the Division of the Biological Sciences and the Pritzker School of Medicine, University of Chicago, will be held in Lecture Room P-117, Frank Billings Auditorium, University Hospital and Clinics, 950 East 59th Street, Chicago. The series started on September 13 and will continue monthly, on Wednesday afternoons, through May 9, 1973. This program is acceptable for 27 1/4 elective hours by the Academy of Family Practice and for 27 1/4 credit hours for the Physician's Recognition Award of the American Medical Association.

Further information may be obtained from Frontiers of Medicine, Room 404, Culver Hall, University of Chicago, Chicago, Illinois 60637, or by telephone (312) 947-5271.

POSTGRADUATE COURSE IN RADIOLOGY AND NUCLEAR MEDICINE

The Fourth Annual Radiology and Nuclear Medicine Postgraduate Course, sponsored by the Department of Radiology of Duke University Medical Center, will be held at the University of Durham, North Carolina, October 25-27.

Further information may be obtained from Robert McLelland, M.D., Department of Radiology, Box 3808, Duke University Medical Center, Durham, North Carolina 27710.

PAGE AND WILLIAM BLACK POST-GRADUATE COURSES

The Page and William Black Post-Graduate School of Medicine, Mount Sinai School of Medicine of the City University of New York, will present postgraduate courses on a variety of topics from October 24 through December 9.

Further information and application forms may be obtained from the Registrar, Page and William Black Post-Graduate School of Medicine, Mount Sinai School of Medicine, Fifth Avenue and 100th Street, New York, New York 10029.

ASBESTOSIS

MALIGNANT MESOTHELIAL TUMORS - HISTOLOGIC TYPE AND ASBESTOS EXPOSURE

The New England
Journal of Medicine 9/14/72
Vol. 287 No. 11

Desmond Magner, M.D. , Alison D. McDonald, M.D.

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