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1

COMPARISON OF SEQUENTIAL IV/PO CIPROFLOXACIN (CIPRO) WTH IV CEFTAZIDIME (CEFT) IN THE TREATMENT OF LOWER RESPIRATORY TRACT INFECTIONS (LRTI). *Faroque Khan, MD, FACP,* Riyadh Basir, MD, Qazi Afzal, MD. Nassau County Medical Center, East Meadow, NY.

We compared in this study the efficacy and safety of IV Cipro (200 mg b.i.d.) followed by 500 mg Cirpo PO b.i.d., with IV Ceft in serious LRTI. Bacterial infection was "presumed" if patients had compatible clinical features or "proven" if patients had, in addition, a positive sputum culture. Of the 140 patients treated, 122 were evaluable and 87 produced 170 bacterial isolates – Hemophilus (38), Pseudomonas (33), Klebsiella (13), enterobacter (9), and other gram negatives (31) and gram positives: Staph aureus (22), Strep pneumoniae (12), B-streptococci (12). All these isolates showed in vitro sensitivity to Cipro except three isolates (1 ps. aeruginosa, 1 citrobacter, 1 achromobacter xylosoxidans). All showed in vitro sensitivity to Ceft except 14 strains (3 ps. maltophilia, 1 ps. aeruginosa, 4 enterobacter aerogenes, 3 Staph aureus, 1 morganella morgani, 1 serratia marcescens, 1 citrobacter diversus). The results of this clinical trial are tabulated.

CIPRO	Success/Failure	%Cure	CEFT	Success/Failure	%Cure
Proven	42/4	91.3	Proven	38/4	90.5
Presumed	18/2	90	Presumed	12/2	85.7

We conclude: 1) Cipro was a highly effective therapy for moderate to severe LRTI with the marked advantage of b.i.d. dosing in both IV and oral forms. 2) Cipro showed a broad in vitro activity against both gram negative and gram positive bacteria. 3) Only three strains showed in vitro resistance to Cipro as compared with 14 to Ceft. 4) Six/66 in the Cipro group had side effects necessitating discontinuation of therapy in one, while 3/56 in the Ceft group had side effects.

2

IS CIPROFLOXACIN EFFECTIVE IN S. PNEUMONIA LOWER RESPIRATORY TRACT INFECTION (LRTI)? *Faroque Khan, FCCP,* R Bashir, MD. Department of Medicine, Nassau County Medical Center, E. Meadow, NY.

We have previously reported on the effectiveness of *oral* Cipro, a new Quinolone antimicrobial, in the treatment of LRTI [Am J Med 82:164, 1987] and sequential IV/PO Cipro in the treatment of serious LRTI [Am Rev Resp Dis – In press]. While the in vitro and in vivo results of Cipro against gram negative infection have been well established, the role of Cipro in streptococcal pneumonia RTI remains controversial in view of the relatively high MIC's for Cipro against S. Pneum. We analyzed our results in 14 adult patients with confirmed S. Pneum. LRTI (3 with bronchitis, 11 with pneumonia). These 14 patients were a subset of the 215 patients who we treated with oral or sequential IV/PO Cipro for LRTI. 9/14 S. Pneum. were sensitive by Kirby Bauer disc method while 5/14 had intermediate sensitivity. The MIC's done in 11/14 patients ranged from .008 to 4.0 ug/ul with a mean of 1.46 ug/ul. 13/14 patients had clinical, bacteriologic, and radiologic response. Our results are similar to the reports of Kobayashi (24/25 cured) and Fass (7/7 cured), [Am J Med 82:169 and 202, 1987]. We conclude that in spite of the relatively high MIC's for S. Pneum. the clinical response rate is over 90%, and we speculate that this unexpected result is due to the unique property of the Quinolones in achieving very high lung parenchymal, bronchial mucosal and sputum levels [Marlin et at: Am Rev Resp Dis 134:1209, 1986].

3

COMPUTED TOMOGRAPHY OF THE NORMAL AND CALCIFIED CORONARY ARTERIES. *A Khan, MD,* C. Kallman, MD*, K. Murata, MD*, K. Rojas, BS*, PG Herman, MD*. Department of Radiology, Long Island, Jewish Medical Center, New Hyde Park, NY.

CT scans of cadaver hearts were performed to define the cross-sectional anatomy of coronary arteries. A retrospective analysis of 103 consecutive thoracic CT scans was performd to assess prevalence of coronary artery clcifications. All scans were performed on a GE 9800 scanner, using 512 matrix, 10 mm slice thickness, and 2 seconds scan time. Calcification of left coronary artery (LCA), left anterior descending (LAD), circumflex (CIR), and right coronary artery (RCA) were noted and the extent graded from 0-3. Fifty-one percent of patients between ages 50-65 years and 79% of patients above age 65 showed coronary artery calcification. The most commonly calcified artery was LAD (43%), follwed in order by LCA (37%), CIR (33%) and RCA (21%). Since there is a close association between calcification of coronary arteries and coronary artery disease, we recommend, that the presence of coronary artery calcifications be noted on all thoracic CT scans as it may signal unsuspected coronary artery disease.

4

PROCESSED MEATS AND POULTRY CONSUMPTION TRENDS IN NORTH AMERICAN MUSLIM POPULATION. *Syed Hussain, PhD,* Research and Development, Swift-Eckrich, Inc., Oak Brook, IL.

The American food supply is the most abundant and varied in the world and Americn Muslims have access to this tremendous bounty at an extremely low cost. The average American Muslim spends only 15% of disposable income on food. Two-thirds of this is spent on food consumed at home and about one-third on food away from home. The technological wonder we call the U.S.A. food system is in flux. Before our very eyes, a new, modern global food system is being built on the remnants of traditional agriculture, food processing, food distribution, food marketing, and food consumption pattern. American Muslims are looking for excitement in their foods. This can be seen in the increased consumption of processed meats and poultry foods among the first and second generation American Muslims. Processed meats and poultry products such as hot dogs, bologna, salami, pastrami, roast beef, and many others labeled "Halal" are appearing in specialty food stores. For the first time in U.S.A. history, the American Muslims' existance is being recognized in the social, political, and economic sectors. This review will explore for the first time the current trends in consumption of processed meats and poultry by the North American Muslim population and its impact on the meat processing industry.

5

ADDICTION RISK FACTORS SUMMARIZED. *AM Khajawall, MD.* Department of Psychiatry and Behavioral Medicine, University of Southern California, Los Angeles, CA.

Over the last eight decades, public concern for substance abuse has been high and three major issues emerge: 1) There are different periods of crisis followed by a course of endemicity. 2) Despite interventions, residual problems are left in each period without resolution. 3) Drug rehabilition lags behind the substance abuse rate. Subsequently, we must put more effort into prevention if we are going to make any headway in the future at all. Our primary goal should be demand and supply reduction. There is considerable information in the socio-cultural, behavioral, biological, pharmacological, and psychiatric fields regarding the risk factors, which play a role in the etiology of drug abuse. The first step in prevention is systematic identificion of important risk factors of addictions and substance abuse as exemplified by coronary heart disease risk factors. I have systematically categorized and organized the common risk factors of substance use and abuse from available information, so that agencies and institutions which are responsible for implementing preventive strategies can approach drug abuse prevention in a hollistic manner:

A) Socio-cultural risk factors include availability of drugs, recent changes in the family unit, the media, poverty/affluence, school and civic institutions, and the freedom to become addicted (societal tolerance).

B) The behavioral attractions to drugs are numerous and include boredom, peer pressure, hedonistic attitude, and fear(s). The alternatives are evident i.e. the proper use and delineation of leisure time.

C) Biopharmacological risk factors include inherent attractiveness of substance, genetic vulnerability, behavioral practice relating synthesis, prescribing, dispensing, and administration of drugs in society.

D) Finally, the complex interaction of psycho-psychiatric risk factors will clarify the role for successful implementation of basic preventive strategies.

6

HEALTH CONCERNS FOR MUSLIMS IN NORTH AMERICA. *Shahid Athar, MD.* Department of Medicine and Endocrinology, St. Vincent Hospital and Indiana University School of Medicine, Indianapolis, IN.

Muslims living in North America are exposed to nearly all the same risk factors as others plus more. They breathe the same air, drink the same water, eat similar foods (except pork) and drive on the same highways. In this public education presentation, the audience is informed of the risk factors associated with obesity, diabetes, hypertension, coronary heart disease, high cholesterol, smoking, sedentary habits, and stress. They are also educated in recognizing early warning symptoms of common diseases. An update on prevalence and prevention of Acquired Immune Deficiency Syndrome is also presented.

7

CURRENT TREATMENT OF HYPERTENSION. *Khalid J. Qazi, MD, FACP,* Department of Medicine, Sisters of Charity Hospital and SUNY at Buffalo, NY

Because of its high prevalence and associated morbidity and mortality, hypertension has been widely recognized as one of our major health problems for quite sometime. The majority of these patients have "Essential Hypertension" which, in recent years, has been explained on "autoregulatory hypothesis" and sodium transport hypothesis". While the exact etiology is not clearly known, its natural history is a little more clear. Once the diagnosis and evaluation of the hypertensive patient have been completed, the physician must carefully select an appropriate treatment strategy. The overall aim of antihypertensive therapy is to reduce diastolic blood pressure to below 90 mmHg and to maintain it at that level in the hope of reducing morbidity and mortality. It is important, however, that an individual therapeutic goal be established for each patient. The previously popular "stepped-care therapy" has given way to more individualized therapeutic regimen to achieve the best possible results. Age-old diuretics, alpha and beta-blockers continue to play an important role but the addition of ACE-inhibitors and calcium channel blockers to the armamentarium has resulted in more rational management of this disease of epidemic proportion. Current trends in the overall management of hypertension will be briefly reviewed.

8

SURROGACY. AN ISLAMIC PERSPECTIVE. *M. M. Hathout, MD, FRCP(C),* Department of Medicine, Loma Linda University, CA.

From the scientific and technological point of view, we are living through a reproductive revolution in which alternative means of reproduction are now available. Surrogacy is one of these alternatives. Surrogacy takes on different forms. One form is a woman solicited by a couple in which the wife can not get pregnant. The surrogate gets impregnated by the husband's sperm and she carries the baby through the antenatal period; then, she gives the baby to the couple. The child genetically belongs to the father but is biologically alien to its father's wife. A second form involves a husband and wife who can produce an ovum and a sperm; however, the wife can not or does not want to go through pregnancy. In this case, in vitro fertilization takes place and the embryo is embedded in the surrogate's uterus. The resulting embryo genetically carries the genes of the parents, but its in utero environment is that of the surrogate. Now, surrogacy has a market, with agencies, brokers, and litigation experts. Surrogacy reduces motherhood from a value to a price. In Islam the only legitimate pregnancy is that which results from the union of sperm and ovum of a legally married couple. New techniques of implanting the fertilized ovum, grown in vitro, in the uterus of the wife is allowed if the sperm and the ovum are those of the husband and wife during their life span, i.e. within the frame of matrimonial legitimacy. Thus a child delivered of a surrogate mother is the product of an illegitimate relation. Based on Islamic argument, I believe that the surrogate mother who carried the fetus through pregnancy and who passed through the experience of delivery is the child's legitimate mother.

9

SURROGATE MOTHERS: NATURE VERSUS NURTURE. *Ghazala Javaid, MD.* Director, Outpatient Child Psychiatry, Nassau County Medical Center, East Meadow, NY.

In Biblical times when a wife was infertile she chose a surrogate "wife" for her husband so she could conceive a child for the family (Sarah & Abraham - Jacob & Rachel, Leah). Modern reproductive technologies enable an infertile couple to have a child genetically related to one or both of the biological parents by using a surrogate. ("a surrogate gestational" mother gestates a prefertilized ovum. A surrogate mother is artifically inseminated, contributes the ovum and gestates). Alternative arrangements ensure continuity of the family. In Sarah's case, the right to nurture was given to the surrogate mother as well as the father and the adoptive mother. In the Baby M case, the surrogate biological mothr was given visitation rights while the father had custody. This issue of surrogacy raises ethical, moral, legal, and psychological concerns:

1. Are there implications for the well-being and identity of the child, what are the effects on the family? Cruelties, inequalities, jealousies did exist in the families in ancient times. Family conflicts inherent in those arrangements led to separation of ideologies and religious sects (Ishmael and Isaac). Competition for the baby could keep the families engaged in hostilities and subject the child to loyalty conflicts and tensions.
2. If procreation is by surrogates and contracts, who should be considered the parents. The one who procreates or the one who nurtures, or both?
3. Is the psychological attachment during pregnancy different for a woman if the fetus does not have her DNA? Is she less of a mother-to-be?
4. Introduction of a third party into a marriage violates the sanctity of the martial reltionship (Vatican's position, 1988).
5. Coupling for procreation occurs in animals and birds. In humans, surrogacy eliminates sexual intimacy from coupling and separates procreation from child raising.

10

WHY TREAT DIABETES? *Shahid Athar, MD,* Department of Medicine and Endocrinology, St. Vincent Hospital, Indiana University School of Medicine, Indianapolis, IN.

At present there are about 10 million diagnosed and 10 million undiagnosed diabetics in the USA. About 600,000 new cases are added each year. Diabetes is the third leading cause of death (300,000 per year) and the No. 1 cause of blindness, amputation, and kidney failure. Twenty-five percent of patients with heart disease have diabetes. Diabetes increases the risk of coronary artery disease (2 x) and stroke (4 x). Nearly 50% of all male diabetics are impotent. Diabetes also increases the risk of recurrent infections, gallstones, cataracts, peripheral vascular disease, and dental bone loss. Four-hundred million dollars is spent annually on dialysis of diabetic patients, $250 million on amputations. Diabetes accounts for 20 million physician visits annually and 3 million additional physician contacts. Each diabetic patient spends $2,000 on health per year ($680 for non-diabetic patients). The total diabetic market (insulin, oral agents, supplies, etc.) was $1 billion in 1984 and total health care costs were $14 billion. Since the introduction of insulin 65 years ago, the mortality from diabetic coma has been reduced from 90% to 2% and the average life expectancy of a diabetic was increased from 20 years to 60 years. With aggressive control of diabetes, the chronic complications have been shown to be either arrested or delayed, and the quality of life improved.

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MODERN MANAGEMENT OF DIABETES IN PREGNANCY. *Hossam E. Fadel, MD,* Department of Obstetrics and Gynecology, Medical College of Georgia and Director of Perinatalogy University Hospital, Augusta, Georgia.

There are three aspects of the modern management of diabetes in pregnancy 1) achieving a "tight" metabolic control, 2) monitoring of fetal well-being, 3) the proper timing of delivery. Strict metabolic control is achieved by proper dietary regimens and the use of insulin (in insulin-requiring diabetes). The insulin dose is continuously "fine tuned" by proper attention to blood glucose levels throughout the day, using home glucose monitoring. Monitoring of fetal well-being includes: A) serial sonography for proper dating, diagnosis of malformations, and evaluation of fetal growth. B) Nonstress tests beginning at 30-32 weeks to be followed by contraction stress tests, or biophysical profiles if nonreactive. Biophysical profiles twice a week are recommended beginning at 36 weeks. Timing of delivery is based on evaluation of the clinical condition; presence of complications (medical or obstetrical), results of fetal well-being tests, and the attainment of fetal lung maturity, usually demonstrated by assaying the surfactant in the amniotic fluid. The use of such management protocol resulted in a markedly reduced perinatal mortality and neonatal morbidity. If the regimen of strict metabolic control is initiated before conception, it is possible that the incidence of congenital malformations may be reduced as well.

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DIABETIC KETOACIDOSIS - PITFALLS IN MANAGEMENT. *Herbert Rettinger, MD,* Department of Medicine, University of California, Irvine and Anaheim Memorial Hospital, Anaheim, CA.

Despite great advances in our understanding of the pathophysiology of diabetic ketoacidosis (DKA) and improved methods of management and prevention, there still exists a significant morbidity and mortality associated with this acute medical emergency. In adolescents with diabetes, DKA accounts for 70% of diabetes-related deaths. Pitfalls in diagnosis and management will be discussed including precipitating factors, fluid replacement, bicarbonate and insulin therapy. The importance of potasium, phosphate, and electrolyte balance will also be emphasized as will common pitfalls in management.

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MANAGEMENT OF DIABETES IN A SURGICAL PATIENT. *Javed Nazir, MD.* Co Department of Medicine, La Grange Memorial Hospital, La Grange, IL.

The stress of surgery is characterized by increased sympathoadrenal activity and release of glucagon and other counterregulatory hormones. In the diabetic patient, these physiologic changes intensify hyperglycemia and accelerate lipolysis. In the absence of adequate levels of plasma insulin, the condition can rapidly deteriorate into ketoacidosis. Careful pre-operative evaluation must include assessment of the cardiovascular status and evaluation for the presence of autonomic neuropathy. Ideally, the patient should be under good metabolic control prior to surgery. Even patients with uncontrolled diabetes mellitus undergoing emergency procedures may be reasonably prepared for surgery in a few hours by treatment with fluids and intravenous insulin. Surgery is preferably scheduled in the early morning. Intravenous fluids are started to provide glucose at a constant rate of 100 mg/kg/hour to spare glycogen stores. Enough insulin is give to keep the blood glucose (BG) in the range of 120-220 mg/dl. One method is to give a continuous intravenous infusion of low-dose regular insulin at the rate of 1-4 units per hour. This treatment is continued until oral intake is resumed following surgery. The insulin dose is adjusted by monitoring BG at least every 4-6 hours. Careful attention is paid to avoid hypoglycemia and to maintain fluid and electrolyte balance. During minor surgical procedures, patients treated with diet alone or with Sulfonylureas, may not require exogenous insulin. Subsequent insulin therapy during recovery from surgery should achieve close control of BG to avoid the sequelae of hyperglycemia.

14

MANAGEMENT OF TYPE II DIABETES WITH VERY LOW CALORIE DIET (VLCD). A DIFFERENT APPROACH. *Farida Khan,* Jose Teixeira*, Jacob Warman*, Interfaith Medical Center, Brooklyn, NY.

Numerous studies in animals and man have demonstrated that insulin resistance is a prominent feature in both obesity and Type II diabetes mellitus. Considerable work in the past has provided us with a clearer understanding of the pathophysiology of these insulin resistant states. Although some alterations responsible for insulin resistance have been indentified, the factors that mediate these undesirable changes are still unknown. Recent evidence demonstrates that improving blood sugar levels by conventional means at least partially corrects both the insulin resistance and the relative insulin deficiency of Type II diabetes mellitus. We studied 32 patients of Type II diabetes with morbid obesity who failed to respond to conventional treatment of diet, oral hypoglycemics, and insulin. Patients ranged from 35-66 years in age, with a mean of 52. They also had hypertension and coronary artery disease. These patients were hospitalized and placed on protocol of "O" calorie diet for two weeks, followed by 400 calories per day, and 800 calories per day on discharge. All the patients lost weight, an average of 10 lbs. Blood sugar values improved significantly, insulin requirements decreased, and blood pressure improved. Cardiac monitoring did not reveal any worsening of angina and arrthymias. We conclude that VLCD is an effective and safe way of treating Type II diabetes with morbid obesity and insulin resistance in middle age females with cardiac risk factors.

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CURRENT CONCEPTS IN DIABETIC NEUROPATHY. *Wahaj Ahmad, MD.* Department of Neurology, Veterans Administration Medical Center, Fayetteville, NC.

Diabetic neuropathy can be classified into four types of syndromes:

1. Distal symmetrical polyneuropathy, which is the most common variety and can be painful or painless.
2. Acute mononeuritis, which can be:
   A. Proximal type, also called diabetic amyotrophy.
   B. Mononeuritis multiplex.
C. Cranial mononeuropathy.
3. Autonomic neuropathy which may affect:
   A. G.I. tract presenting as diarrhea or gastroparesis.
   B. G.U. system presenting as male impotence and urinary incontinence.
   D. Pupillary abnormality.
4. Mixed polyneuropathy.

Pathological and electrophysiological features of all the above syndromes along with current concepts in treatment approaches are presented.

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RAMADAN FASTING AND MUSLIM DIABETIC PATIENTS. *Shahid Athar, MD.* Department of Medicine and Endocrinology, St. Vincent Hospital and Indiana University School of Medicine, Indianapolis, IN.

Muslim patients in general are exempt from fasting during Ramadan. However, those who do decide to fast should do it under medical supervision; otherwise, they will expose themselves to the risk of hypoglycemia due to insulin or oral agents, dehydration, or the diabetes will become out of control due to the excessive consumption of sweets. It is recommended that diabetic patients during Ramadan continue their diabetic diet and divide caloric intake equally i.e. 1/3 during Sahoor, 1/3 during Iftaar, and 1/3 at bedtime. If on oral agents, switch to a longer acting one, like Glyburide 2.5 mg, before Sahoor and 5 mg after Iftaar. If on insulin, they should eliminate regular in the morning and reduce the total pre-Ramadan requirement by 1/3 i.e. 10 NPH in A.M. and 10 NPH + 4 R after Iftaar. With close supervision and home glucose monitoring before Sahoor and after Iftaar, the Muslim diabetic not only can fast but can derive the therapeutic benefits of fasting to include improvement in blood sugar control, weight loss of few pounds, and discipline in their eating habits.

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EVALUATION OF FLUORESCENT MICROSCOPY OF VAGINAL SMEARS AS A MASS SCREENING METHOD FOR THE DETECTION OF CERVICAL CANCER. *Firoza Hameed, MD,* Department of Pathology, Aligarh Muslim University, Aligarh, India.

A technique for cervical cancer detection in exfoliative cytology using fluorescence microscopy is being evaluated. The application of a fluorescence technique to exfoliative cytology is an uncomplicated procedure. It employes the fluorochrome Acridine Orange (AO) which has a special affinity for nucleic acids and is able to differentiate ribonucleic acid (RNA) from desoxyribonucleic acid (DNA). After applying AO and under the excitation of ultraviolet radiation, the two types of nucleic acids emit fluorescence of different colors. In a solution of optimum acidity, the AO-RNA combination fluoresces an orange pink color whereas the AO-DNA combination fluoresces a yellowish-green color. Therefore, when fluorescence technique is applied to cytologic smears the nuclear material (AO-DNA) will have yellowish-green fluorescence and cytoplasmic granules and nucleoli (AO-RNA) will show an orange-pink fluorescence. Since the bright red cytoplasmic fluorescence indicates increased RNA and cell growth, it is posible to detect abnormal cells even when they have only the earliest change. The fluorescence of the normal vaginal cervical epithelium, atypical epithelium and squamous cell carcinoma was compared with the Papanicolaou method to determine the accuracy and advantages of the fluorescent technique.

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COMPARISON OF MAGNETIC RESONANCE IMAGING WITH RADIONUCLIDE SCANNING FOR LOCALIZATION OF PARATHYROID AMENOMA. *A Khan, MD,* JN Attie, MD*, G Moskowitz, MD*, WM Rumancik, MD*, PG Herman, MD*. Long Island Jewish Medical Center and State University of New York at Stony Brook, New Hyde Park, NY.

From May 1987 to September 1987, 30 consecutive patients with primary hyperparathyroidism were evaluated by magnetic resonance (MR) imaging and thallium-201/technetium-99m scintigraphy (TTS) for pre-operative localization of parathyroid adenoma. Surgical confirmation was available in 24 patients. MR was performed on a Siemens Magnetom 1.0 Tesla system, using a Hemholtz surface coil positioned at the neck to obtain spin-echo T1-weighted and T-2 weighted axial scans. Image interpretations were conducted in both a prospective and retrospective fashion. Prospective interpretations of the MR and TTS images were performed (1) independent of the other's results, and (2) in conjunction with the other's results. Interpretations were then correlated with surgical findings to determine if the lesions could be identified on the MR and TTS studies. Prospective localization of a parathyroid adenoma was accurately predicted by MR alone in 78%, TTS alone in 63%, and combined in 95% of surgically proven cases. Retrospective identification of a parathyroid adenoma was possible by MR in 100% and by TTS in 74% of cases. Localization on MR of a parathyroid adenoma is facilitated by identification of the accompanying blood vessel (branch of the inferior thyroid artery), by the presence of a fat-plane between the adenoma and adjacent thyroid gland, and/or by the identification of normal zonal esophageal signal characteristics on T-2 weighted images to distinguish adenomas adjacent to the esophagus. The signal behavior of adenomas on T2-weighted images is variable.

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HERPES ZOSTER ENCEPHALITIS. A CASE REPORT AND REVIEW, *Wahaj Ahmad, MD.* Department of Neurology, Veterans Administration Medical Center, Fayetteville, NC.

A 68-years old, white man with known hypertensive disease was admitted in July, 1986 with a history of fever and chills and a rash on his right shoulder consistent with Herpes Zoster. He was disoriented and confused. A spinal tap was performed. It showed raised pressure, increased number of white cells, and increased protein in the CSF. Bacterial cultures were negative. He was diagnosed as having Herpes Zoster Encephalitis. The patient developed a few epileptic seizures at a later date when his fever and confusion had improved. He was treated with Acyclovir and Dilantin in addition to his antihypertensive and other medications. The differential diagnosis of the case as well as other investigations to be performed in such cases will be discussed. The role of antiviral agents and other drugs in the treatment of Herpes Zoster Encephalitis will be presented. The complications of Herpes Zoster affecting the CNS in other ways will be also presented. Zoster Encephalitis is a relatively rare complication and the subject will be reviewed.

20

ANTENATAL DIAGNOSIS OF CONGENITAL MALFORMATIONS UTILIZING SONOGRAPHY. *Hossam E. Fadel, MD,* Department Obstetrics and Gynecology, Medical College of Georgia and Director of Perinatology, University Hospital, Augusta, Georgia.

High resolution ultrasound equipment has made possible the antenatal diagnosis of many heretofore undiagnosable fetal defects. Examples of such conditions are hydrocephaly, hydranencephaly, holoprosencephaly, Dandy Walker cysts, anencephaly, other neural tube defects, cardiac defects, omphalocele, gastroschisis, diaphragmatic hernia, renal agenesis, urinary tract obstruction, skeletal dysplasia, fetal tumours, gastrointestinal atresias, etc. Frequently, these defects are first suspected during the performance of ultrasonography for another indication, most commonly dating of the pregnancy. The actual diagnosis is usually made when suspicious cases are referred for a Level II sonographic examination. Rarely is the examintion performed because of suggestive fetus. The author recently diagnosed a case of urethral outlet obstruction in a male fetus at 18 weeks gestation. Because of the serious prognosis in such cases an intrauterine vesico-amniotic shunt was placed. The pregnancy continued to term and the patient had a normal vaginal delivery. The neonate had a cystostomy performed, had several episodes of urinary tract infections, and mild renal functional impairment. He is now one year old, has normal developmental milestones, kidney function has almost completely recovered, and has not had a urinary tract infection in the last four months.

THE USE OF NATURAL IMMUNE ENHANCERS IN THE TREATMENT OF FAR ADVANCED CANCER: A PRELIMINARY REPORT. *Ahmed Elkadi, MD,* Osama Kandil, PhD*, Tariq Abdullah, MD*. Akbar Clinic and Institute of Islamic Medicine for Education and Research, Panama City, FL.

At the Akbar Clinic and the Institute of Islamic Medicine for Education and Research, we have been evaluating various natural substances with regard to their effect on the immune system of the human body. The preliminry results of our controlled studies in human volunteers indicate that the Black Seed, garlic, and bee honey, as well as the natural pure nutrients, have an immune enhancing effect. Certain vitamins, such as C, E, Beta Carotene, and certain minerals, such as germanium and selenium as well as the reduction of stress and the restoration of a positive mental and spiritual attitude, are also known to have an enhancing effect on the immune system. We have combined all the above-listed modalities in what we call the Multimodality Immunotherapy Program (MIP), and we are currently evaluating its effect in patients with far advanced cancer who have failed to respond to or even failed to qualify for the conventional cancer treatment modalities, i.e. surgery, radiation therapy, and chemotherapy. The MIP is used in some patients as the only treatment given, while in others it is combined with conventional therapies. The program is in its second year, and it is therefore too early to give any cure rates or long-term results. However, the early results are exciting and very promising. In patients who completed the intensive course of MIP, some tumors completely disappeared and some were arrested and in a way started behaving like benign tumors. In all patients, there was a measurable enhancement of one or more of the immune functions as determined by monitoring of the T and B cell profiles with the T cell subsets, as well as the natural killer cell activity.

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HYDROXYLATION OF SALICYLIC ACID BY ACTIVATED NEUTROPHILS. *BS Mohamed,* JR Mohammed, DC Mays*, WB Davis*. Ohio State University, Columbus, OH.

Hydroxylated products of salicylic acid 2,5-dihydroxy-benzoic acid (gentisic acid) and 2,3-dihydroxybenzoic acid have previously been identified in serum and synovial fluid of normal volunteers and patients taking aspirin. Since activated neurophils oxidize salicylic acid by a hydroxyl (OH) dependent pathway (Sagone and Husney, J Immunol, 1987) we hypothesized that this reaction should also produce the above hydroxylated compounds. To test this hypothesis, normal human blood neutrophils (20 x 10^6 cells/ml) were incubated at 37° in phosphate buffered saline containing 10 mM sodium salicylate. After one hour activation by phorbol myristate acetate (PMA, 100 ng/ml) cell suspensions were centrifuged (15,000 g, 10 min) and the cell-free supernates collected. The unextracted supernates were analyzed by a reverse phase HPLC system monitored at 240 and 278 nm. Based on retention time analysis, activated neutrophils (30 x 10^6 cells) from six subjects produced 54.7 ± 4.9 ng of the gentisic acid metabolite. Neutrophils also produced smaller quantities of as yet unidentified metabolites. Superoxide dismutase (15 ng/m) and azide (10^{-4} M) significantly inhibited gentisic acid formation (63.5% and 92.7% inhibition, respectively). Catalase (100 ng/ml) and deferroxamine (0.1 mM) produced no inhibition. Studies with other inhibitors and gas chromatography-mass spectrometry (GCMS) analysis are in progress. These findings demonstrate that activated human neutrophils produce hydroxylated compounds from salicylic acid, most likely by an OH dependent pathway. This reaction may represent an important non-microsomal pathway for salicylate metabolism that could be used to detect OH production *in vivo* in diseases associated with neutrophil activation.

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THE COST OF SMOKING. *Shahid Athar, MD,* Department of Medicine, St. Vincent Hospital, Indianapolis, IN.

Cigarette smoking, although appearing as a casual method of relaxation, is an expensive habit, expensive for the health of smokers and for the economics of the nation. Compared to non-smokers, smokers are at 20 times more risk for lung cancer, 15 times more risk for coronary heart disease, and nearly 10 times more risk for esophageal cancer, emphysema, bronchitis, peptic ulcer, and peripheral vascular occlusive disease. In the USA, 340,000 deaths annually can be directly linked to the complications of smoking. Smoking during pregnancy can cause abortion, fetal deaths and prematurity of fetus. Cancer of the lung in women was the 10th leading type of cancer 25 years ago, now it is number 2. While an average smoker (1-2 pk/day) spends about $1,000.00 annually, smoking costs the nation $13 billion in health care costs and $25 billion in lost productivity. One billion dollars are spent annually on the promotion of cancer i.e. on tobacco advertisement and promotion. Although smoking in the USA in the educated upper class is declining, it is sharply rising in teenagers, women, lower social economic groups, and also in Third World countries. A slide presentation is made of the pathological complications of smoking.

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OMEPRAZOLE: A "MAGIC BULLET" FOR PEPTIC DISEASES. *Omar Farooq, MD.* Downey, CA.

Omeprazole is a benzimidazole which at this time is the most potent inhibitor of gastric acid secretion in man and animals. Studies in man attained a cure rate of 75% after two weeks of therapy for acute duodenal ulcer, an end point which has not been previously attained using the H-2 antagonists. In Zollinger-Ellison Syndrome, the drug has shown control of symptoms and prevention of ulcer recurrence in an overwhelming majority of patients. In ulcerative esophagitis, Omeprazole resulted in improved symptoms and healed erosions when the standard H-2 antagonists failed. A case of severe erosive esophagitis with response to therapy will be presented. Barring unforeseen side effects it appears that Omeprazole has the potential to serve as a "Magic Bullet" for induction of healing of peptic diseases.

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THE EDUCATION AND CLINICAL PRACTICE OF CHIROPRACTIC PHYSICIANS IN THE UNITED STATES. *Mustafa M. Idris, DC.* Valley CA.

Chiropractic is the science and the art which utilizes the inherent recuperative abilities of the body and the relationship between the musculoskeletal, vascular, and nervous systems and the function of the body principally of the spinal column and the nervous system in the restoration and maintenance of health. Chiropractic physicians are primary health care physicians who give particular attention to the relationship of the structural and neurological aspects of the body in health and disease. In order to accomplish this objective a chiropractor must gain an expert knowledge of the body through the study of Basic science, Clinical science, Chiropractic science, and completes an internship in a clinic. By manipulation of the spinal column and its immediate articulations, chiropractics help restore and maintain normal nerve function, communications, and homeostasis. Doctors of Chiroptractic (DC) graduate from Chiropractic Colleges accredited by the Council on Chiropractic Education (C.C.E.). Their practice includes history taking, physical examination, orthopedic clinical and neurological examination, laboratory diagram and X-ray studies.

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INDICATIONS FOR CYTOGENETIC STUDIES: AN UPDATE. *Qutub Qazi, MD.* Department of Pediatrics, SUNY Health Science Center at Brooklyn, Brooklyn, NY.

It has been estimated that chromosome abnormalities occur in 1 of 150 live births, 5% of stillbirths and perinatal deaths, 10-15% of children with mental retardation and as many as 50% of first trimester spontaneous abortions. A steady progress in the methods of culturing cells from blood, bone marrow, solid tissues, amniotic fluid, and recently from chorionic villi and advances in the staining techniques have permitted precise definition of the structure of individual chromosomes and identification of even small deletions and rearrangements. This has resulted in a phenomenal acceptance of cytogenetic studies not only in genetic conditions but in many areas of clinical medicine. Many physicians appear to equate chromosome analysis with genetic diagnostics without realizing that only a fraction of genetic diseases are associated with chromosome aberrations. Moreover, the cytogenetic tests are complicated, time consuming and expensive, and most laboratories have the capacity to handle only a limited number of specimens. It is the purpose of this presentation to provide a good understanding of the current clinical as well as prenatal indications for cytogenetic studies.