AMA Specialty Journal Abstracts

ARCH DERMATOL — Chicago, Ill

Treatment of Epidermal Pigmented Lesions With the Frequency-Doubled Q-Switched Nd:YAG Laser: A Controlled, Single-Impact, Dose-Response, Multicenter Trial

Background and Design: The removal of benign, aesthetically important, pigmented lesions can be effectively treated with multiple modalities. Selective removal of the pigment by lasers is becoming increasingly popular. A three-center trial evaluated the effectiveness of the frequency-doubled Q-switched neodymium (Nd):YAG laser (532 nm, 2.0-mm spot size, 10 nanoseconds) in removing benign epidermal pigmented lesions with a single treatment. Forty-nine patients were treated for multiple lentigines (n=37), for cafe au lait macules (n=7), and for miscellaneous lesions (n=5). Treatment areas were divided into four quadrants, irradiated with fluences of 2, 3, 4, or 5 J/cm^2 and evaluated at 1- and 3-month intervals following treatment.

Results: For lentigines, response was related to dose with a greater than 75% pigment removal achieved in 60% of those lesions treated at higher energy fluences. Responses were more variable with other lesions, with fair-to-good improvement noted in most cases. Mild, transient erythema; hypopigmentation; and hyperpigmentation were noted in several patients, but resolved spontaneously within 3 months. No other textural changes, scarring, or other side effects were noted.

Conclusion: The frequency-doubled Q-switched Nd:YAG laser (532 nm) safely and effectively treats benign epidermal pigmented lesions.

(1994;130:1515-1519) Suzanne Linsmeier Kilmer et al, Wellman Laboratories of Photomedicine, 50 Blossom St, Boston, MA 02114.

ARCH FAM MED — Chicago, Ill

Domestic Violence in a Primary Care Setting: Patterns and Prevalence

Objectives: To determine the prevalence of domestic violence among women patients in a primary care setting, the types of violence experienced by each woman, and the reasons for their visit to the family physician.

Design and Sample: Structured interviews with all consecutive, consenting women patients scheduled for morning appointments between July 26 and August 13, 1993.

Setting: A community-based family practice residency outpatient clinic in a midwestern city with a population of 85 000.

Results: Of the 42 women interviewed, 45% reported experiencing physical, social, and/or emotional violence in their relationships. Thirty-six percent reported being physically battered during their lifetimes; 12% reported being currently involved in a battering relationship. Relationships and patterns between various types of violence were evident. Sixty-two percent of the women who had experienced slapping and hitting (moderate abuse) also experienced punching and kicking (severe violence), some of which included sexual violence and weapon use. Women who were sexually abused were also likely to be emotionally abused (r=.66; P<.001), and women who were socially abused were also likely to be severely battered (r=.60; P<.005). None of the currently battered women was being seen for routine health maintenance reasons, but presented instead with specific complaints such as neck stiffness and migraine headache.

Conclusions: Domestic violence is very prevalent among women patients in primary care settings and involves predictable patterns of injury. Physicians should routinely assess for violence at all types of visits, educate patients about violence, and work to prevent the violence that occurs in abusive relationships.

(1995;4:113-119) Barbara A. Elliott and Marilou M. P. Johnson, Department of Behavioral Sciences, University of Minnesota School of Medicine, 10 University Dr, Duluth, MN 55812-2487.

ARCH GEN PSYCHIATRY — Chicago, Ill

Serotonin and the Neurobiology of Depression: Effects of Tryptophan Depletion in Drug-Free Depressed Patients

Objective: To investigate the effects of tryptophan depletion in untreated depressed patients. Rapid dietary depletion of the precursor of serotonin synthesis, tryptophan, causes a transient return of depression in 67% of patients who have had a therapeutic antidepressant response.

Method: Forty-three untreated depressed patients underwent tryptophan depletion in a double-blind, placebo-controlled cross-over study. After testing, they received open sequential antidepressant treatment.

Results: Mood did not change when tryptophan was depleted but did change on the day after the depletion test. Relative to the control test, 37% of the patients had 10-point or greater *decrease* in Hamilton Depression Rating Scale (Ham-D) score, while 23% had a 10-point or greater *increase* in Ham-D score on the day after the tryptophan depletion test. Change in mood was correlated to treatment response after testing. Patients whose condition worsened proved to be highly refractory to treatment while those who showed improvement were more likely to respond.

Conclusions: That tryptophan depletion did not rapidly worsen depression argues that serotonin function is not linearly related to the level of depression and if reduced serotonin function does cause depression, then it is either as predisposing factor or due to a postsynaptic deficit in the utilization of serotonin.

(1994;51:865-874) Pedro L. Delgado et al, Department of Psychiatry, University of Arizona College of Medicine, 1501 N Campbell Ave, Tucson, AZ 85724.

ARCH INTERN MED — Chicago, Ill

Hypertensive Disorders of Pregnancy in Southwestern Navajo Indians

Background: The Navajos are the largest Native American tribe. They, like other Native Americans, appear to be in an "epidemiologic transition" and are accordingly experiencing increased rates of hypertension, diabetes, and obesity.

Methods: A retrospective chart review of all pregnancies in 1991 at the Crownpoint Indian Health Service Facility in Crownpoint, NM, was conducted to determine the prevalence of hypertensive disorders of pregnancy in this Navajo population.

Results: Seventy-five (12.6%) of 594 pregnancies were associated with a hypertensive disorder. There were 18 individuals who developed gestational hypertension and 10 individuals with chronic hypertension that persisted during pregnancy. There were 46 women (7.7%) who developed preeclampsia and one woman (0.3%) who developed eclampsia. Eight women (1.4%) with chronic hypertension developed superimposed preeclampsia during pregnancy. Thus, 12.3% of these pregnancies in Navajo women were associated with the development of, or worsening, hypertension, and there was a prevalence of preeclampsia of 9.1%.

Conclusion: The Navajos exhibit a high prevalence of pregnancy-related hypertension and preeclampsia.

(1994;154:2181-2183) Matthew T. Levy et al. Reprint requests to James R. Sowers, Division of Endocrinology and Hypertension, Wayne State University UHC-4H, 4201 St Antoine, Detroit, MI 48201.

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Edited by Jeanette M. Smith, MD, Contributing Editor.

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ARCH INTERN MED — Chicago, Ill

Gonococcal Arthritis in an Era of Increasing Penicillin Resistance: Presentations and Outcomes in 41 Recent Cases (1985-1991)

Background: To assess the impact of recent reports of disseminated gonococcal infection caused by penicillin-resistant organisms, we reviewed the presenting features, clinical course, and outcomes of a group of patients with gonococcal arthritis treated in recent years.

Methods: We reviewed the records of all cases of acute arthritis associated with a culture positive for *Neisseria gonorrhoeae* at our institution from July 1985 through December 1991.

Results: Forty-one cases were identified. Patients included 34 women and 38 blacks; the mean age was 22.6 years. Duration of symptoms averaged 4.8 days at presentation. Other features included migratory arthralgias (n=27), urogenital symptoms or signs (n=26), fever (n=21), and skin lesions (n=16). Comorbid conditions included intravenous drug use (n=8) and systemic lupus erythematosus (n=3). The knee was the most commonly affected joint. Positive culture results were obtained from 32 urogenital samples (86%), 14 synovial fluid samples (44%), seven rectal samples (39%), four blood samples (12%), and two throat samples (7%). All synovial fluid samples with positive culture results had white blood cell counts higher than 20.0×10^9/L. Response to therapy with penicillin and/or ceftriaxone was prompt, and mean duration of hospitalization was 5.8 days. Patients who required longer hospitalization had a higher mean erythrocyte sedimentation rate and higher frequencies of positive synovial fluid culture results and comorbid conditions. Penicillin sensitivity could be determined in 30 patients on the basis of clinical response or in vitro testing. Among these patients, two cases of penicillin-resistant organisms were identified, one β-lactamase positive and one β-lactamase negative.

Conclusions: The clinical features of patients with gonococcal arthritis have changed very little since the last large reported series over a decade ago. Underlying conditions appear to be more common, but response to antibiotic therapy and eventual outcome remain excellent. The finding of penicillin-resistant organisms in at least 5% of patients reinforces recent recommendations that third-generation cephalosporin agents be used as initial therapy for disseminated gonococcal infections until drug susceptibilities are known.

(1994;154:2690-2695) Christopher M. Wise et al, Division of Rheumatology, Allergy, and Immunology, Medical College of Virginia, Box 647, MCV Station, Richmond, VA 23298-0647.

ARCH NEUROL — Chicago, Ill

Proximal Myotonic Myopathy: Clinical Features of a Multisystem Disorder Similar to Myotonic Dystrophy

Background: Previous investigations in three families have shown that proximal myotonic myopathy (PROMM) is not linked to the gene loci for myotonic dystrophy (DM) or to the loci of the genes of the muscle sodium and chloride channels associated with other myotonic disorders. It is important to extend our clinical knowledge of this interesting new disorder by studying other families.

Patients: Thirty-five patients in 14 new families; 27 patients were examined.

Methods: Clinical examination, electromyography, muscle biopsy, DNA analysis.

Results: The following findings were noted: proximal without distal weakness of the legs (n=21); myotonia on electromyograms (n=23); intermittent clinical myotonia (n=17); cataracts (n=24) and a number of the cataracts were identical to the type in DM (n=11); and peculiar muscle pain (n=14). A few patients had cardiac arrhythmias, and others had elevations in the concentrations of serum γ-glutamyltransferase. None of the patients had significant muscle atrophy. Muscle biopsy specimens showed mild myopathic changes. All patients had normal trinucleotide (cytosine, thymine, and guanine) repeat size of the DM gene in leukocyte DNA. Muscle DNA probes from three patients showed findings identical to those of their leukocyte DNA probes.

Conclusions: Proximal myotonic myopathy is a new genetic disorder similar to, but distinct from, DM. Patients suspected of having DM but with negative DNA studies may have PROMM. The gene defect for PROMM awaits discovery. Because of the similarities between PROMM and DM, this discovery will not only shed light on the pathomechanism of PROMM, but it may also increase our understanding of DM.

(1995;52:25-31) Kenneth Ricker et al. Reprint requests to Richard T. Moxley III, Department of Neurology, 601 Elmwood Ave, Box 673, Rochester, NY 14642.

ARCH OPHTHALMOL — Chicago, Ill

Surgical Results of Trabeculotomy Ab Externo for Developmental Glaucoma

Objective: To elucidate long-term surgical outcome of trabeculotomy ab externo in the treatment of developmental glaucoma.

Patients: Included in this retrospective study are 116 eyes of 71 patients with developmental glaucoma. We classified patients into three groups based on their age: congenital (33 eyes), existing before age 2 months; infantile (31 eyes), occurring from ages 2 months to 2 years; and juvenile (52 eyes), age 2 years or older.

Results: A life-table analysis showed that the total success probabilities at 5 and 10 years with one or more trabeculotomy ab externo operations were, respectively, 92.5%±2.7% and 76.5%±6.2%. The success probability of patients with congenital glaucoma (60.3%± 15.9%) was significantly lower than it was for those with infantile (96.3%±3.6%) or juvenile (76.4%±7.5%) glaucoma ($P<.01$ for both).

Conclusions: Surgical results of trabeculotomy ab externo remain effective for a long time. Congenital glaucoma has the worst prognosis, and infantile glaucoma has a better prognosis than does juvenile glaucoma.

(1994;112:1540-1544) Masayuki Akimoto et al, Department of Ophthalmology, Faculty of Medicine, Kyoto University, Kyoto, Japan 606.

ARCH OTOLARYNGOL HEAD NECK SURG — Chicago, Ill

Congenital Cholesteatoma

Objective: To review the characteristics of congenital cholesteatomata.

Design: Case series.

Setting: Tertiary care (referral-based) private practice.

Patients and Other Participants: Fourteen patients were included in the study. The diagnosis of congenital cholesteatoma was based on an intact tympanic membrane on physical examination; a history that excluded tympanic membrane perforation, otorrhea, or previous otologic procedure; and a documented cholesteatoma at the time of surgical removal.

Intervention: Surgical procedures including tympanotomy, atticotomy, and tympanotomy with mastoidectomy were performed on all patients.

Main Outcome Measures: Removal of cholesteatoma.

Results: Four of the 14 patients had lesions isolated to the anterosuperior quadrant of the tympanum; the remainder had more extensive disease with notable posterior tympanic involvement. Three of the patients underwent surgery for recidivism; none were from isolated anterior lesions. One of these patients was referred at the time of recurrence, one had known residual cholesteatoma, and one had recurrence.

Conclusions: Clinical presentation and surgical findings enable the differentiation of two separate sites of congenital cholesteatoma formation: the anterosuperior and posterior-superior regions of the tympanic cavity. Recidivism of the lesion appears more commonly with posterior-superior congenital cholesteatomas.

(1995;121:19-22) John J. Zappia and Richard J. Wiet, The Chicago Otology Group, 950 York Rd, Suite 102, Hinsdale, IL 60521.

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ARCH PATHOL LAB MED — Chicago, Ill

Transfusion-Associated Human Immunodeficiency Virus Type 1 From Screened Antibody-Negative Blood Donors

Cases of human immunodeficiency virus type 1 (HIV-1) infection acquired from transfusion of screened antibody-negative blood have been reported since 1986. Recent reports have proposed new combination antibody assays or the addition of HIV-1 p24 antigen testing to enhance the screening of blood donations further. Since antibody testing for HIV-1 began in 1985, 700 000 donor units have been screened at US Army blood donor centers. The US Army blood donor/recipient "lookback" program recently identified two cases of HIV-1 infection that resulted from a screened negative donation. Samples from the implicated unit, as well as from previous donations from the same donor, were available for testing to assess the performance of current screening methods. Sequential donation samples were assayed by five different Food and Drug Administration–approved HIV-1 screening enzyme-linked immunosorbent assays, a Food and Drug Administration–approved Western blot, a recombinant envelope–based enzyme-linked immunosorbent assay, a p24 antigen capture assay, a radioimmunoprecipitation assay, and a polymerase chain reaction. The HIV-1 p24 antigen and genomic RNA material were detected in a donation that was screened as negative by four of the five Food and Drug Administration–licensed screening enzyme-linked immunosorbent assays. Two recipients of transfusion products from this donation became infected with HIV-1. A sample from a prior donation from this donor was negative for HIV-1 by all assays. The status of blood donors who are in the early stages of HIV-1 infection may not be detected by current screening methods. While this is a rare phenomenon, it highlights the need for technologic developments in screening methods to narrow the time between infection and detection. In addition, it emphasizes the need for more effective education and counseling to enhance the utility of self-deferral.

(1994;118:1188-1192) Chester R. Roberts et al, SRA Technologies, Inc, 9620 Medical Center Dr, Suite 100, Rockville, MD 20850 (Dr Roberts).

ARCH PEDIATR ADOLESC MED — Chicago, Ill

A Randomized Community Trial of Prepackaged and Homemade Oral Rehydration Therapies

Objective: To compare the effectiveness of prepackaged oral rehydration solutions with homemade cereal-based oral rehydration therapy in the treatment of acute childhood diarrhea in children younger than 5 years.

Background: In Ethiopia, approximately 40% of all mortality in children younger than 5 years, or over 200 000 annual deaths, is attributable to acute childhood diarrhea. Less than 15% of the episodes of acute childhood diarrhea are treated with oral rehydration solutions.

Subjects: Two hundred ninety-one children younger than 5 years with acute childhood diarrhea.

Methods: A randomized field trial comparing the effectiveness of an entirely homemade cereal-based oral rehydration therapy (HC-ORT, n=103) with two alternative prepackaged salt solutions, a glucose-based oral rehydration solution (G-ORS, n=98) and a cereal-based oral rehydration solution (C-ORS, n=90), in the treatment of mild to moderate acute childhood diarrhea in children younger than 5 years.

Results: Subjects in the HC-ORT group demonstrated equivalent or better weight gain than those in the C-ORS or G-ORS groups at 24, 48, 72, and 96 hours following the onset of treatment. The beneficial weight-gain effect of HC-ORT was most pronounced in infants younger than 12 months, following adjustment for demographic and baseline clinical characteristics. Compliance with ORT use through 96 hours was significantly better among caretakers of children receiving HC-ORT. Minor errors in the preparation of these oral rehydration regimens occurred more frequently among caretakers preparing either of the cereal-based ones.

Conclusions: That HC-ORT is an effective, culturally more acceptable alternative to G-ORS or C-ORS. The implementation of well-monitored, community-based HC-ORT programs in less developed countries is recommended.

(1994;148:1288-1292) Mesfin Kassaye et al, Gilman Pavilion, Montreal Children's Hospital, 2300 Tupper St, Montreal, Quebec, Canada H3H 1P3.

ARCH SURG — Chicago, Ill

K-*ras* Status Does Not Predict Successful Hepatic Resection of Colorectal Cancer Metastasis

Objective: To establish whether specific K-*ras* alterations are predictive of less aggressive tumor behavior and subsequently those patients who are most likely to benefit from resection of hepatic metastases from colorectal carcinoma.

Design: Evaluation of long-term survivors of hepatic resection for metastases of colorectal carcinoma (median survival, 85 months).

Results: DNA, extracted from 26 paraffin-embedded hepatic metastases from 19 patients, was analyzed using single-strand conformation polymorphism and direct sequence analysis of codons 12 and 13 of the K-*ras* gene. Seven of 19 patients were found to harbor K-*ras* mutations. A similar frequency and spectrum of K-*ras* mutational events was detected in 14 patients with short-term survival following pathologic diagnosis of hepatic metastasis.

Conclusions: Neither the presence of a K-*ras* mutational event nor the precise nucleotide change are predictive of less aggressive tumor behavior, and genetic alterations at this locus alone cannot be used to select patients undergoing resection of hepatic metastases from colorectal carcinoma.

(1995;130:9-14) William V. Kastrinakis et al, Laboratory of Cancer Biology, Department of Surgery, Deaconess Hospital, Boston, Mass.

Incidence and Management of Pancreatic and Enteric Fistulas After Surgical Management of Severe Necrotizing Pancreatitis

Objective: To determine the incidence, type, and outcome of complications of necrotizing pancreatitis.

Setting: Major tertiary referral center (Mayo Clinic, Rochester, Minn).

Patients: Sixty-one patients seen from 1985 to 1994 who underwent surgical management of severe necrotizing pancreatitis and who developed pancreatic or gastrointestinal fistulas.

Main Outcome Measures: Incidence, management, and outcome of pancreatic and gastrointestinal fistulas.

Results: Twenty-five patients (41%) developed pancreatic (14 patients) and/or gastrointestinal tract cutaneous (19 patients) fistulas. While three duodenal fistulas and one colonic fistula were recognized at the initial operation for pancreatic necrosectomy, the remainder developed 4 to 60 days after the initial operation. Spontaneous closure occurred in nine of 14 pancreatic, two of two gastric, two of four enteric, two of eight colonic, and four of five duodenal fistulas. Mortality of the group with fistulas was 24% (6/25) and was not different from the mortality of the patients with necrotizing pancreatitis without fistulas (28% [10/36]).

Conclusions: Pancreatic and gastrointestinal tract fistulas are common complications of surgical treatment of severe necrotizing pancreatitis. Well-controlled gastric, pancreatic, and enteric fistulas have the greatest likelihood of spontaneous closure. Duodenal and colonic fistulas may need surgical intervention for control or repair. Mortality in these patients parallels the mortality for severe necrotizing pancreatitis.

(1995;130:48-52) Gregory G. Tsiotos et al. Reprint requests to Michael G. Sarr, Gastroenterology Research Unit, Mayo Clinic, 200 First St SW, Rochester, MN 55905.

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