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Sixty-three patients had continuous electrocardiographic monitoring before, during, and after colonoscopy. Of these, 37 (59%) patients had no significant electrocardiographic abnormalities during the procedure. However, 29 patients developed new or exaggerated electrocardiographic abnormalities. Seventeen (27%) patients had previously recognized heart disease, and the frequency of arrhythmias in these patients (64.7%) was greater than in the others (32.6%). More serious arrhythmias also tended to occur in patients with heart disease.


Of 182 patients with verified primary hyperparathyroidism, two had microscopic hyperplasia in all parathyroid glands that were normal in size or only slightly enlarged (none over 80 mgm weight). All parathyroid glands in another two patients showed microscopic hyperplasia but varied from normal size to 190 mgm in weight. In seven additional patients, microscopic hyperplasia was present in one, several, or all parathyroid glands, which varied in weight from normal (30 mgm) to 350 mgm. Familial hyperparathyroidism or multiple endocrine neoplasia was evident in five of these 11 patients. The diffuse microscopical hyperplasia appeared morphologically in a micronodular pattern or as a single nodule in some parathyroid glands. In five other patients, removal of mildly enlarged parathyroid glands corrected hypercalcemia, but definite microscopic abnormalities were not evident by routine histologic study of the glands. Thus, there appears to be a spectrum of abnormalities relative to size and microscopic changes in the parathyroid glands of patients with primary hyperparathyroidism. The occurrence of these unusual patterns of parathyroid hyperplasia requires recognition. In such instances, the surgeon must make a search for a fifth parathyroid gland and should perform a subtotal parathyroidectomy. Parathyroid function should be preserved. Follow-up studies up to 12 years indicate a good prognosis for this group of patients.


Cefatrizine, a new oral semisynthetic cephalosporin, was evaluated in vitro and in the treatment of 18 patients with acute urinary tract infection, pneumonia, and soft tissue infection. In vitro, it was also more active than cephalothin, cefazolin, and cephalirin against most of the gram-negative bacteria but less active against the gram-positive bacteria. Of the patients treated with cefatrizine, only one failed to respond. This patient had pneumococcal conjunctivitis and hypogammaglobulinemia and neutropenia. The mean peak serum level after multiple 6-hourly doses of 500 mg was 6.2mg/ml. The serum levels of cefatrizine necessary for inhibition of most susceptible organisms were well within the achievable range. The drug was well tolerated, and no renal, hepatic, or hematological toxicity was detected.
Abstracts


Endoscopic biopsy specimens of normal human gastric mucosa and mucosa in erosive and chronic gastritis were studied by scanning electron microscopy. The orifices of the gastric pits and the cobblestone surface of epithelial cells covered with villus-like and bulbous projections were observed. A possible mechanisms for mucus secretion from these cells is suggested. The mucosa showed striking morphologic surface differences from the normal in cases of both erosive and chronic gastritis.


Genetic linkage investigations of two large families with medullary thyroid carcinoma (MCT) have been combined with screening for affected members utilizing calcium and pentagastrin provocative tests for calcitonin secretion. HL-A typing was performed on the larger family with 25 affected members. Eleven recombinants and 15 non-recombinants were found in the HL-A vs medullary thyroid carcinoma linkage and analysis as evidence against any close linkage of these gene loci. For the two families and the Mayo Clinic KOE kindred a total of four recombinants and 18 non-recombinants were found in the P red cell antigen vs medullary thyroid carcinoma linkage analysis suggesting the possibility of linkage of these two loci. The P antigen and HL-A have been reported to be loosely linked but further data suggested that this may be dubious. The HL-A locus is thought to be located on chromosome 6. If the present data suggesting that the MCT locus may be linked to the P antigen locus can be confirmed, the evidence that the MCT locus is distant to the HL-A locus would provide an estimate of the linear order on chromosome 6 of the genes for these conditions.


Hairy cutaneous malformations of the palms and soles were observed in four generations of a French-Canadian family. The lesions were asymptomatic, bilaterally symmetrical, and involved small areas of skin of the central proximal part of the palms near the wrist and the medial aspect of the longitudinal arch of the foot. The appearance suggested a difference in quality of the skin rather than simply the presence of hair follicles. Examination of a biopsy specimen showed skin containing hair follicles. The pattern of inheritance was autosomal dominant with definite male-to-male transmission. Genetic linkage studies were generally noninformative, but evidence was obtained against close chromosomal linkage of this trait to the histocompatibility antigen (HL-A) or Rh blood group locus. The only other known case of a similar condition was reported by Schnitzler in 1973.


An unusual spectrum of craniofacial and foot abnormalities has been detected within a large midwestern Amish kindred. Enlarged great toes and craniofacial abnormalities suggested Pfeiffer acrocephalosyndactyly type V; however, thumb abnormalities were not present. Eighty-eight affected individuals were observed, and another 50 were reliably reported to be affected. An autosomal dominant inheritance pattern was observed associated with variable expressivity. All affected individuals had some clinical or radiologic abnormality of the feet. The phenotypic expression was so variable that the entire spectrum of dominantly inherited craniofacial dysostoses-acrocephalosyndactylys (except the typical Apert syndrome) was seen within this kindred.
Abstracts


During a study of an Amish population of Northern Indiana, 25 individuals with a syndrome of brittle hair, short stature, and intellectual impairment were found in one large kindred. Observations in 20 of these affected individuals have shown that the short stature and intellectual impairment are relatively mild except in the propositus who also has a deletion of a portion of the long arm of chromosome 14. The hair in each affected individual has an abnormal appearance by light and scanning electron microscopy with an irregular grooved surface lacking in scales. Polarization microscopy of the hair revealed an alternating birefringent pattern. Neutron activation analysis of the hair of 11 affected individuals showed the sulfur content to average 2.51% by weight (approximately one half that of controls and nine obligate heterozygotes). This condition can be differentiated from Menkes' kinky-hair syndrome by the microscopic appearance of the hair, the normal copper and ceruloplasmin levels and the mode of inheritance. The syndrome being reported has similarities to and may be identical with a condition previously reported in two siblings by Pollitt et al in 1968 and that reported in a 4-year-old girl by Brown et al in 1970. The number of affected individuals and their distribution in this large kindred have provided evidence for the autosomal recessive inheritance of the condition and for its decreased fertility.


Recent laboratory developments and parallel clinical discoveries have contributed greatly to the understanding of calcium and phosphorus homeostasis. Among these developments are parathyroid hormone radioimmunoassay (i-PTH), and the recognition of a variety of immunoreactive fragments measured: the adenylyl cyclase—cyclic 3', 5'-adenosine monophosphate (cAMP) second messenger system, linking circulating hormone to its intracellular metabolic action; the discovery of calcitonin, counterbalancing PTH action on bone by inhibiting osteoclastic bone resorption; measurement of bone dynamics, permitting the quantification of bone formation and resorption rates; and the metabolism of vitamin D, enabling the elucidation of its active metabolites and their target tissues. The rapid accumulation of new knowledge requires a more extensive and detailed classification of the hypoparathyroid disease states. These innovations presently allow the hypoparathyroid states to be more logically classified on a physiologic basis, illustrating their interrelationships and permitting predictions both of undescribed syndromes and of the mechanisms of known disorders. A classification based on these principles is presented.


In order to study the surface topography of their face and head, upper and lower limbs, torso and sex tubercle by scanning electron microscopy, a 41-day and a 61-day embryo obtained at laparotomy as a result of ruptured tubal pregnancy, were processed. The first was fixed and critical point dried before removal from the amnion; the second was removed from the amnion before fixation but was processed otherwise by identical techniques. Evidence for shrinkage over the surface of these large specimens was noted mostly over the dorsal areas, with less over the head and abdomen and a minimum over the limbs and lower face. There is evidence for concluding that SEM has detected formed structures in this 41-day embryo demonstrated some local variations in their relatively sparse surface specializations, major differences with location were not met except over the corneal ectoderm, where the cells were locally smaller, more cobblestoned and were not microvillous. The number and variety of surface specializations, including microvilli, blebs and intercellular bridges, were increased in the 61-day over the 41-day specimen.
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