
A case is reported of atrial flutter converted to atrial fibrillation with carotid sinus pressure in the postoperative period of a patient with an aortic valve prosthesis. A review of the literature revealed 23 other cases of the apparent excitatory effects of carotid sinus pressure manifested by either an increase of the atrial flutter rate or by conversion of the atrial flutter to atrial fibrillation. In atrial flutter, carotid sinus pressure characteristically increases the degree of atrioventricular block and the ventricular rate is slowed. There are various reports of unusual effects of carotid sinus pressure in both experimental and clinical situations: induction of ventricular fibrillation, decrease of the exit block of parasystolic foci, facilitation of retrograde ventriculo-atrial conduction, suppression of ventricular extrasystole. The explanation for the conversion of atrial flutter to atrial fibrillation by carotid sinus pressure is based on three experimental findings. 1) Vagal stimulation decreases the refractory period of the atrial muscle and increases the speed of intramyocardial impulse conduction facilitating a more rapid flutter cycle. 2) Carotid sinus pressure produces a shortening of the duration of monophasic action potential of atrial muscle facilitating a more rapid rate of ectopic impulse formation. 3) Concealed retrograde ventriculoatrial conduction causes disruption of the flutter circuit.


Thyroid carcinoma in patients under the age of 16 years has comprised approximately 5% of thyroid carcinomas with another 5% diagnosed between the ages of 17 and 21 years. In the pediatric age group, thyroid carcinoma is distinguished by the predominance of papillary or papillary-follicular pathologic types, a tendency for early metastasis to cervical and anterior superior mediastinal lymph nodes, and a frequent history of previous external radiation therapy to the neck region. Operation is designed for the adequate removal of suspicious thyroid nodules, usually by a lobectomy, or the removal of an enlarged cervical lymph node followed, if the presence of carcinoma is confirmed histologically, by additional procedures individualized on the basis of the gross extent of disease. Attention is particularly given to removal, with the thyroid tissue, of lymph nodes in the anterior superior mediastinum and along the recurrent laryngeal nerves in the tracheoesophageal grooves. By preservation of a posteriorly located rim of thyroid tissue or by conservatism in dissection in the tracheoesophageal groove on the least one side of the neck, it is possible to preserve parathyroid function except for the few patients with extensive bilateral carcinoma of the thyroid. Modified lateral cervical neck dissections are performed usually for patients with palpable cervical lymphadenopathy. Although thyroid carcinoma in children is usually not very virulent and permits extended life, morbidity and mortality do occur. With appropriate selective therapy, virtually all patients should be cured of this disease.
Abstracts


Fifty cases of hyperparathyroidism were found by a serum calcium survey of 50,330 individual patients in a general diagnostic clinic during a 10-year period. The diagnosis was established histologically in 44 cases and by repeated biochemical abnormalities in six patients. Many other instances of hypercalcemia are still being investigated, so that the ratio of one case of hyperparathyroidism per 1,000 individuals surveyed may be a slight underestimation. These 50 cases do not include patients referred with previously known hypercalcemia or cases found on family studies. Investigation of families of patients found in this survey resulted in discovery of 24 additional cases of hyperparathyroidism. Detection of many apparently asymptomatic cases by calcium surveys confirms the opinion that a careful search for hyperparathyroidism must involve the screening of asymptomatic individuals for hypercalcemia. Abnormal chemical determinations found by automated procedures are easily overlooked unless individual medical units develop systems of alerting clinicians to important results.


The pressor products of renin isozymes extracted from various tissues were characterized. For this study, pressor materials were generated by renin and by renin isozymes extracted from the kidney or uterus of the dog, from the rat kidney, or from the submaxillary gland of the mouse. A pressor substance was also produced by incubating uterine renin with plasma from which renin substrate had been previously removed by digestion with kidney renin and subsequent dialysis. These products were characterized by antibody binding studies using antibodies that specifically inhibit the pressor effect of angiotensin I and II. Zero to 30% of the pressor effect of these products was inhibited when incubated with antibody against angiotensin II, and 70% to 100% was inhibited when incubated with antibody against angiotensin I. When the antibody was destroyed by boiling, complete recovery of the pressor activity was observed. These results clearly show that angiotensin I is the product generated by these renin isozymes in the presence of EDTA.


Drug reactions are frequent in patients with lupus erythematosus (LE), and drugs may also lead to an exacerbation of the lupus process. Documented association of oral contraceptives with flares of LE is rare. Two such cases are presented and the pertinent literature is reviewed. Although reports of LE patients showing exacerbation while taking oral contraceptives are uncommon, where contraception is indicated for women with LE, nonhormonal methods would seem preferable.


An unusual case is described of idiopathic hypoparathyroidism presenting clinically with a stiff and painful back resembling ankylosing spondylitis. Similar cases reviewed in the literature suggest more than coincidental relationship. Determination of serum calcium and phosphorous is therefore recommended when evaluating a patient with spondylitis, especially when atypical roentgenologic features are present such as patent sacro-iliac joints and other ectopic soft tissue calcifications. The relationship and possible mechanism of these abnormal calcifications in the various hypoparathyroid states is also discussed.


The subject matter of this article is presented in five case examples. Each case is basically more somatic than psychic. Disproportionateness of symptoms is the key in differentiation.
Abstracts


Both total and free thyroxine rise on heparin administration. After a single bolus of heparin 13 patients with myocardial infarction had a rise in mean free thyroxine from 2.4 to 12.4 ng/100 ml (p = 0.1 to .001) and an increase in total thyroxine from 7.3 to 8.7 ug/100 ml (p = 0.2 to 0.1). The heparin infusion in 12 patients caused a rise in free thyroxine, but for a longer time. Acute myocardial infarction, per se, caused no change in either of these indices in seven patients nor did warfarin sodium in six others. This rise in total and free thyroxine is independent of the thyroid gland as it can also be demonstrated in athyreotic individuals on replacement therapy. Conceivably, heparin modifies the thyroxine binding and causes its temporary transfer from its extravascular stores into a intravascular compartment. This rise in free thyroxine may be of significance in precipitating arrhythmias in a heart with recent infarction.


A method has been devised for measuring bone formation rates by determining the numbers of secondary Haversian systems present in a unit amount of cortical bone at standard bone sampling sites. Comparison of the new method with tetracycline based techniques reveal excellent agreement. The new method is used to estimate bone formation in an extinct animal, the mastodon. Since the new method averages bone formation over the previous life of the bone whereas tetracycline labeling techniques in essence determine the activity at the time of biopsy, the new method in principle allows one to estimate bone formation activity in a bone prior to the emergence of some systemic disease, and then by comparing that information with tetracycline-based data, to determine if a change characteristic of the emergence of the disease had developed. Such comparisons were made in diabetes mellitus and in postmenopausal osteoporosis, revealing in the former instance that a characteristic decrease in formation rate appears to develop as diabetes becomes overt, but in the latter group the dynamics found at the time of biopsy resembled those existing over the previous several decades of the patient's life. Once suitable additional information is available, it is possible to calculate from these available data the mean age of the bone. When this system of analysis was applied to the rib biopsies of patients with osteogenesis imperfecta, it was demonstrated that the drift of the ribs through tissue space (expansion of chest cage) continued much longer into adult life than occurred in normal subjects. Consequently the mean true age of the individual bone moieties was decreased below normal values.

Listed by title only.

ERRATUM


Page 60, second column, under “Results,” line 24, “... titer of 1:498 ...” should read: “... titer of 1:49.8 ...”