CME Digest

CONSERVATIVE VS SURGICAL TREATMENT OF HYPERPARATHYROIDISM: WHICH TO CHOOSE, AND WHEN?

In asymptomatic patients with hyperparathyroidism and mild hypercalcemia, what is the best approach to management?

On the side of surgical management, the following four arguments can be made. First, when carefully investigated, most patients actually have symptoms (eg, fatigue, weakness, depression, nonspecific abdominal pain, and constipation). Second, osteopenia may improve with parathyroidectomy, and older women may be at significant risk of accelerated bone disease with medical therapy alone. Third, the usual operation takes 2 hours, requires no blood transfusions, is associated with a success rate of over 95%, a complication rate of 5% to 6%, and rare mortality, and, in patients with no complications, hospitalization should not exceed 3 days. Fourth, the morbidity associated with medical therapy is unknown because many patients are "lost to follow-up" after 5 to 10 years.

On the other hand, the following case can be made for medical management. First, there is no evidence that prolonged elevated levels of parathyroid hormone are associated with clinically significant osteoporosis. Second, although randomized, controlled studies have not been done and many patients are lost to follow-up, there is little evidence of disease progression or deterioration of renal function in patients who have been followed. Third, long-term studies indicate that a substantial number of surgically treated patients with both adenomas and hyperplasia have recurrent disease after an interval of 10 years or more. And fourth, many of these patients are elderly and have cardiovascular disease, and so may be poor candidates for surgery.

In general, when hyperparathyroidism is diagnosed, the following patients should be considered candidates for surgical management: (1) all patients with a serum calcium greater than 12 mg/dL; (2) all patients, regardless of age, who have complications of the disease—bone disease, nephrocalcinosis, nephrolithiasis, peptic ulcer disease, pancreatitis; (3) all patients with significant symptoms (weakness, depression, gout, unexplained anemia) if that symptom interferes with quality of life (remember that "quality" varies with age); and (4) all patients below age 50 after excluding familial benign hypercalcemia in asymptomatic cases.

A conservative approach is recommended in patients over age 50 who are totally asymptomatic and have a serum calcium level less than 12 mg/dL, and in patients medically unfit for surgery for whatever reason. Thiazide diuretics, dehydration and volume contraction, prolonged bed rest or inactivity, and a high-calcium diet should all be avoided, since they tend to aggravate hypercalcemia. Moderate physical activity should be promoted. In addition, adequate hydration (six to eight glasses of water per day) and moderate calcium intake (600 to 800 mg every 24 hours) are to be encouraged. When selecting from among available agents, keep in mind that propranolol and cimetidine are ineffective, and that oral phosphates may be dangerous. Estrogens and progestins are useful in postmenopausal women. Unfortunately, oral diphosphonates, which may be the therapy of the future, are currently not well tolerated.

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TREATING SLE NEPHRITIS: SOME GUIDELINES

While data concerning the use of total lymphoid radiation and cyclosporine show promise in the treatment of lupus nephritis, evidence is still anecdotal. A conservative approach that combines vigorous early treatment with long-term low-dose therapy is still the preferred method of treatment. The following points outline the basic tenets of this approach:

- Ideally, early treatment of lupus nephritis should start when the patient has diffuse proliferative lupus glomerulonephritis and a serum creatinine ≤1.2.
- An accurate renal biopsy will help avoid overtreatment. Patients with mild involvement will respond well to a relatively modest therapeutic regimen.
- Short-term oral cyclophosphamide has proven to be as efficacious as other immunosuppressive regimens that have been added to prednisone.
- Intravenous cyclophosphamide should be used instead of oral cyclophosphamide if there is a possibility of poor patient compliance.
- Early treatment (for the first 4 to 8 weeks) should be as vigorous as possible, followed by a judicious tapering of prednisone with a long-term goal of alternate-day steroid therapy.
- The induction of a remission of glomerulonephritis, with a serum creatinine ≤ 1.4 mg/dL and a 24-hour urine protein ≤ 300 mg, is an important determinant of long-term prognosis.
- Prednisone may be required indefinitely for patients who have had severe lupus nephritis. Such patients should be followed closely, both systemically and nephrologically, since they are susceptible to recurrence.
- Systemic arterial hypertension and drug-associated renal damage and dysfunction are as much a concern among these patients as in any population with chronic renal disease.

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HEMODIALYSIS-INDUCED HYPOTENSION: THE SEARCH FOR A CAUSE

Often during the course of dialysis, episodes of hypotension occur that can be severe enough to require interruption of dialysis and treatment with saline infusion. Among the proposed etiologic factors in dialysis-induced hypotension are (1) excessive fluid removal: (2) venodilation with venous sequestration of blood volume; (3) autonomic neural dysfunction, with the inability to counterbalance cardiovascular instability induced by fluid removal; and (4) autonomic disequilibrium with predominant vagal stimulation induced by the reduction of left ventricular volume.

Autonomic dysfunction in hemodialysis has been extensively studied as a cause of dialysis-induced hypotension; however, evidence suggests that the pathogenesis is more related to hemodynamic and volume factors. Studies at the Cleveland Clinic have shown that although the efferent parasympathetic pathway was abnormal in hemodialysis patients, adrenergic responses were generally normal. These findings could not be linked to the occurrence of dialysis-induced hypotension and, in fact, there were no differences between dialysis patients with and without hemodialysis-related hypotension.

Echocardiographic studies of dialysis patients at the Cleveland Clinic point out the importance of