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NEWS AND NOTES

SUPPLEMENT

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CORRESPONDENCE

Because we receive many more letters than we have room to publish we may shorten those that we do publish to allow readers as wide a selection as possible. In particular, when we receive several letters on the same topic we reserve the right to abridge individual letters.

Letters critical of a paper may be sent to the authors of the paper so that their reply may appear in the same issue. We may also forward letters that we decide not to publish to the authors of the paper on which they comment.

Letters should not exceed 400 words and should be typed double spaced and signed by all authors, who should include their main degree.

Long term follow up of untreated primary hyperparathyroidism

SIR,—Dr C R Paterson and others (10 November, p 1261) once more emphasise that it is reasonable to manage conservatively patients with asymptomatic primary hyperparathyroidism, despite serum calcium values of 2·75 mmol/l (11·0 mg/100 ml) or more, mainly because in the long term the raised serum calcium values in their 14 patients did not rise and progressive renal impairment did not develop. In recent years this opinion has been repeatedly defended on the same grounds.[1–5] When to operate for primary hyperparathyroidism has become a much debated and puzzling issue. Among those authors who recommend surgery the upper limit of serum calcium that is considered unacceptable for medical management varies widely—from 2·75[6] to 3·0 mmol/l[4] or "0·25 mmol/l [1 mg/100 ml] above the upper limits of the normal range."[7] Kleerekoper summarises current opinion best by stating that most doctors will send their patients for surgery at a threshold for hypercalcaemia which may vary from 2·875 to 3·0 mmol/l (11·5-12·0 mg/100 ml).[8]

We would like to emphasise how exquisitely sensitive the bone mass is (as reflected by non-invasive measurements) to excessive circulating parathyroid hormone in postmenopausal women not receiving hormonal replacement therapy. We studied this group of patients because primary hyperparathyroidism is more common in postmenopausal women[9] and because bone after the menopause may be more sensitive to circulating parathyroid hormone.[10] Furthermore, postmenopausal women represent the population at risk for bone fractures, and primary hyperparathyroidism may be associated with an early menopause,[11] another factor favouring postmenopausal osteoporosis.[12]

We focused our attention on "mild" and "very mild" cases of primary hyperparathyroidism, characterised respectively by fasting serum calcium concentrations of 2·75-3·00 and 2·60-2·74 mmol/l (10·4-10·96 mg/100 ml), the most debated groups as far as mode of treatment is concerned. All patients had their diagnosis confirmed on operation, and none received hormonal replacement therapy. Bone mineral density—that is, the ratio of bone mineral content over bone width—was determined by single photon absorptiometry with a Norland-Cameron bone mineral analyser, using iodine-125 at two scanning sites on the non-dominant radius: the midshaft radius (two thirds of the way from elbow to wrist) and the distal radius (2 cm from the styloid process); these two sites represented, respectively, almost pure cortical bone (about 90%) and a mixture of cortical and trabecular bone with a sizable amount of the latter (about 27%). Results were expressed as percentages of values in age and sex matched controls.[12]

Results are shown in the table. Not surprisingly, serum calcium concentrations were significantly higher in the mild than in the very mild group and so were the alkaline phosphatase values, although the average value remained below the upper limit of normal, 60 IU/l. There was no difference between the groups in the serum creatinine concentration. Both at the midshaft and at the distal radius bone mineral density was significantly lower in the mild than in the very mild cases. It was also significantly lower in the mild cases than in age and sex matched controls, whereas this was not the case for the very mild cases.

If we split the values of serum calcium between 2·75 and 3·00 mmol/l, taking into consideration all patients whose serum calcium was below 2·875 mmol/l (n=17), then the average bone mineral density was 88·9 (4·0)% at the midshaft radius and 90·7 (5·3)% at the distal radius, both

Age, biochemical data, and bone mass measurements in patients with mild and very mild primary hyperparathyroidism. Results are means (and SD)

	Serum calcium (mmol/l)		Significance (p)
	2·60-2·74 (n=9)	2·75-3·00 (n=12)	
Age (years)	56·1 (2·6)	61·1 (2·3)	NS
Serum calcium (mmol/l)	2·68 (0·02)	2·85 (0·02)	<0·001
Serum creatinine (μmol/l)	74·3 (3·5)	76·1 (4·4)	NS
Alkaline phosphatase (IU/l)	35·9 (3·6)	56·2 (5·8)	<0·001
Midshaft radius BMD (% of normal)	94·8 (3·6)	80·3 (4·9)*	<0·05
Distal radius BMD (% of normal)	99·3 (8·2)	76·3 (4·7)*	<0·01

BMD = bone mineral density.
*Significantly decreased compared with values in age and sex matched controls.
Conversion: SI to traditional units—Calcium: 1 mmol/l ≈ 4 mg/100 ml. Creatinine: 1 μmol/l ≈ 0·0113 mg/100 ml.