Computer Methods and Programs in Biomedicine 21 (1985) 55
Elsevier

CPB 00723A

Abstract

A pocket computer programme for differential diagnosis of tumor-induced hypercalcaemia and primary hyperparathyroidism

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In practice the differential diagnosis of hypercalcaemia frequently presents difficulties, particularly since the determination of individual biochemical parameters (e.g. parathormone level, ionized serum calcium, tubular reabsorption maximum for calcium, index of phosphate excretion etc.) is often of long duration, not feasible or imprecise.

On the basis of a discriminant analysis of 168 patients with hypercalcaemia, Watson et al. [1,2] set up an equation by means of which the cause of the hypercalcaemia could be determined with 93% certainty from simple biochemical parameters, determinable in every clinical chemistry laboratory (ESR, urea, alkaline phosphatase, bicarbonate, phosphate and chloride). This method, however, had the disadvantage of entailing considerable calculations and it was thus rarely used in practice. In order to make this method simpler to use, we set up a programme for the computer-assisted differential diagnosis of hypercalcaemia for the pocket computer HP 71B from Hewlett Packard.

The programme was tested for accuracy on the basis of 5 cases. In each case the presumed computer diagnosis accorded with the clinical diagnosis. Analogous programmes exist for HP 41 CV and HP 85 computers and can be sent on request.

We believe that improved, speedier differential diagnosis of primary hyperparathyroidism and tumor-induced hypercalcaemia is possible with this programme.

Hypercalcaemia Hyperparathyroidism Portable computer

References

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