Diagnosis

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- PHPT is a biochemical diagnosis. Only when the disease has been confirmed biochemically should localisation studies be undertaken. Positive imaging does not confirm the diagnosis and negative findings cannot rule it out. PHPT is defined as an elevated total, or more specifically ionised, calcium in the presence of an inappropriately elevated or unsuppressed PTH. It is associated with a low serum - phosphate in the setting of normal creatinine and vitamin D lev els; 24-hour urinary excretion of calcium may be normal or elevated. It is important to perform a 24-hour urinary collection to rule out the presence of the rare familial hypocalciuric hypercalcaemia (FHH). Alkaline phosphatase may be elevated in patients in whom there is concomitant bone disease. This is important to recognise preoperatively as the surgeon should anticipate significant postoperative hypocalcaemia due to the development of hungry bone syndrome. Diagnosis

The classical symptoms associated with secondary hyperpara - thyroidism are seen less commonly now , with greater awareness of the disease and the resultant earlier medical intervention. However, prog ressive bone disease, especially bone pain, can occur with associated soft-tissue calcium deposits (Figure 56.9). The diagnosis of secondary hyperparathyroidism is characterised by hypocalcaemia or normocalcaemia with an elevated PTH. Patients have a high serum phosphate and a low vitamin /uni00A0 D. Traditional plain radiog raphs now rarely demonstrate the pathognomonic osteitis fibrosa cystica. How - ever, bone densitometry (DEXA scan) typically demonstrates osteopenia or osteoporosis. The diagnosis of secondary hyperparathyroidism is a bio - chemical one. In general, localisation studies are not under - taken as minimally invasiv e surgery is not indicated. However, neck ultrasonography can be performed to identify patients with nodular hyperplasia who may be refractory to medical management. Localisation studies are helpful in patients with recurrent disease in order to identify ectopic parathyroid tissue, especially in the mediastinum. In cases of recurrent disease, when there is no evidence of active disease in the neck and a previous allograft has been used to the forearm, selective venous sampling for PTH in the neck and the brachial vein on the side of the graft can be useful. This is known as the Casanova test and to prove that the recurrent disease is located in the grafted arm (graft hyperplasia) the ratio must be greater than 20:1.

Figure 56.9 Secondary hyperparathyroidism. Radiograph showing ectopic calci /f_i cation.

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