SUMMARY

The disorders of parathyroid functions are either increased function "hyperparathyroidism" or decreased function "hypoparathyroidism" which may need implantation.

Hyperparathyroidism is a disease characterized by general symptoms of elevated serum calcium manifested by muscular weakness, dyspepsia, polyuria, anorexia and psychiatric disorder. Late manifestations of the disease include bone demineralization, pathological fractures, renal stones and metastatic calcification.

Primary hyperparathyroidism starts in parathyroid glands as an adenoma or hyperplasia or rarely as a carcinoma.

Secondary hyperparathyroidism is a compensatory response to systemic hypocalcemia as with chronic renal failure or as with malabsorption syndrome. Tertiary hyperparathyroidism occurs when secondary hyperplasia becomes autonomous.

In ectopic hyperparathyroidism non-parathyroid neoplasms may produce parathyroid hormone or parathyroid hormone like peptide thus, causing hypercalcemia.

The disease is diagnosed on account of elevated serum calcium and parathormone levels. Other investigations are used to exclude other causes of hypercalcemia.

There is a general agreement that the only corrective treatment of hyperparathyroidism is surgical removal of overactive gland or glands. Experience of the surgeon and preoperative localization of enlarged glands by using sonography (high-resolution), or (CT), or thallium-technetium scanning, or magnetic resonance imaging (MRI) and other modern techniques are of great importance in parathyroid surgery. If the cause is solitary adenoma, it is removed and other glands inspected, biopsy is optional, if the cause is hyperplasia, there are two current options for surgical treatment:

1. Subtotal parathyroidectomy with preservation of a well vascularized remnant or parathyroid gland in situ similar in size and weight to the normal gland; or,
2. Total parathyroidectomy with immediate autotransplantation into the forearm musculature. The rational for the latter, approach is easier to the transplanted parathyroid tissue in the event of recurrent disease.

Parathyroid autotransplantation can be delayed using cryopreserved tissue is now in use to correct postoperative hypoparathyroidism.