Hyperparathyroidism

This department covers selected points from the 2008 Endocrine Update: A CME Day from the Division of Endocrinology and Metabolism at McMaster University and the University of Western Ontario.
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Consensus from highly experienced surgeons states that true "asymptomatic" hyperparathyroidism cases are very rare because most patients do present with a wide range of symptoms, including:

- weakness,
- fatigue,
- cognitive changes,
- cardiac complications,
- hypertension,
- irritability,
- neuromuscular symptoms and
- diabetes.

Surgery is recommended for all patients < 50-years-of-age, particularly if they present with increased risk of progression of the disease. Some risks do exist for minimally invasive surgery, including:

- increased risk of missed second adenomas,
- misdiagnosed hyperplasia and
- recurrent nerve injuries.

Healthy asymptomatic patients should be considered for surgical exploration.

Several imaging modalities are currently used to detect parathyroid tumours. A routine preoperative ultrasound is done in some centers on all patients having parathyroid surgery as it is believed to be the most cost-effective procedure available.[1] Abnormalities identified on ultrasound that could be parathyroid tissue are equally likely to be a thyroid nodule or even a lymph node. The large legions that are picked up by the ultrasound can be found by an experienced surgeon upon neck exploration. MRI with contrast gives high sensitivity and can identify abnormal parathyroid tissue but is time consuming, expensive and difficult to interpret by the inexperienced observer.[2] A number of patients are excluded from MRI due to pacemakers and other metallic implants.

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Venography and parathyroid hormone assays can have some morbidity (due to venography). The procedure provides a "general location" rather than a definitive site and although expensive, can be used if other imaging fails to show adequate results. Sestamibi parathyroid nuclear

imaging accuracy is less than originally reported, possibly due to the increase in the number of small adenomas. However, a major advantage of sestamibi scanning is that it almost certainly rules out mediastinal adenoma, which is of considerable value to even an experienced parathyroid surgeon.[3]

CAT scan has improved the quality of preoperative imaging due to easy availability. The CAT scanning of the neck and upper mediastinum with evaluation of axial, coronal and sagittal views, provides impressive delineation of neck and mediastinum anatomy and vascularity in the tissue. A new technique called 4-dimensional CT uses multi-planar images of the neck and allows the visualization of difference in perfusion of the hyper functioning parathyroids.[4] There is no doubt that the use of a given modality by a small group of individuals can result in excellent results that can fail to be reproduced by less experienced investigators using the same methods elsewhere. Dx

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