

The elusive parathyroids

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Introduction

The parathyroids are four small glands in the neck in close proximity to the thyroid gland and their main function is calcium homeostasis. Parathyroid disorders are common clinical entities encountered in practice. Primary hyperparathyroidism (PHPT) is by far the commonest disorder diagnosed in clinical practice. Worldwide studies show an annual incidence of PHPT of 20 cases per 100,000 people with an estimated prevalence in the general population of 0.5% to 1% increasing with age over 2% in both sexes by the age of 55 (1-3).

The precise incidence of parathyroid disorders in Sri Lanka is unknown and there is a noticeable paucity of literature on parathyroid disorders in Sri Lanka. Experienced clinicians have noted that in clinical practice; the diagnosis of PHPT is definitely less than figures quoted in the world literature. This appears to be a phenomenon seen in other Asian countries including India, China and the Middle East (3-5).

There are several reasons for this, perhaps we are not looking for it diligently or the disease pattern has changed from overt disease to asymptomatic disease as seen in the western countries or the diagnostic facilities especially in the government sector are inadequate for the diagnosis to be made accurately. It is likely that combinations of these factors are at play. It seems that the Parathyroid disease remains and elusive entity in clinical practice in Sri Lanka and in developing countries.

The need to diagnose and treat

In the western countries, wide-spread screening in the 1970s increased the diagnosis of PHPT

especially the asymptomatic disease dramatically (6). Hence the asymptomatic patients and the patients with mild symptoms became the predominant clinical patterns in those countries. The picture in Asia remains undetermined, yet in India the picture is same as before with a significant number of patients having overt disease (3).

Around 85 - 90% of PHPT is due to a single adenoma and surgery is curative and relieves symptoms even if they are mild and non-specific such as fatigue; and this recovery is early in the postoperative period (7-9). If a Patient has overt symptoms they are likely to be referred for surgery. The issue is with patients who are asymptomatic or have only mild nonspecific symptoms. The experience is that PHPT and other parathyroid diseases are not detected in the age group as it should be done at a point of time when they can be prevented from having a long-term morbidity and the very rare occurrence of mortality. Even if surgery is not undertaken or is not recommended; medical management with targeted medical therapy using amino-bisphosphonates for skeletal protection and cinacalcet for lowering serum calcium needs to be considered. This requires accurate diagnosis initially. This means that even a selective screening policy must be employed in Sri Lanka and in other developing countries. This raises the question of who should be offered screening. There are some obvious candidates for screening. They include:

- Patients with recurrent, multiple or bilateral urinary calculi
- Patients with recurrent acute pancreatitis
- Patients over 50 years with persistent bone pain without an obvious cause

- Elderly patients with unexplained fatigue and neuropsychological symptoms

These patients will need the accurate assessment of serum ionized calcium levels. Ideally at least 2 levels if the results are marginal. If they have proven hypercalcaemia and without evidence of an underlying malignancy, they should have a serum parathormone assay (PTH).

Urolithiasis is the original and the commonest manifestation in PHPT. It is not uncommon to come across patients with multiple bilateral or recurrent urinary tract calculi who have not had an assessment of their calcium status. This may be due to many factors including non-availability of facilities, but it is likely that some of these patients are having PHPT. Several studies have shown that about 5% of patients with urolithiasis have PHPT (10-12).

There is very little doubt that screening for PHPT and treating it prevents significant morbidity and mortality hence all attempts must be made to 'capture' the elusive parathyroid and treat it. There are several guidelines (13) that will help in easy decision making. Every effort must be made to detect and treat parathyroid disease particularly PHPT.

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