Hyperparathyroidism

Overactivity of the parathyroid glands.

What is hyperparathyroidism

Hyperparathyroidism means that the parathyroid glands make too much parathyroid hormone (PTH). Most people have four small glands in the neck. PTH helps control calcium. Calcium is usually high in primary and tertiary disease, but can be normal or low in secondary disease.

Types of hyperparathyroidism

- Primary: usually caused by a benign growth in one gland, or enlargement of more than one gland. Parathyroid cancer is a very rare cause.
- Secondary: the glands respond to another problem, such as chronic kidney disease or vitamin D deficiency. Calcium can be normal or low.
- Tertiary: the glands become persistently overactive after long-standing secondary disease, usually related to kidney disease, and calcium becomes high.

How common is it

Primary hyperparathyroidism becomes more common with age and is more frequent in women. Secondary disease is common in chronic kidney disease.

What are the symptoms

- No symptoms – many cases are picked up on routine blood tests.
- Tiredness and weakness.
- Thirst and passing more urine.
- Abdominal pain or indigestion.
- Bone or joint aches.
- Kidney stones.
- Low mood or difficulty concentrating.

Possible complications if untreated

- Kidney stones or kidney damage.
- Osteoporosis (weakened bones) and fractures.
- Pancreatitis.
- High blood pressure may coexist and needs its own assessment and treatment.

What causes it

In primary disease, the cause is usually a benign adenoma in one gland or enlargement of several glands. Rarely, it is cancer. Some inherited conditions increase the risk. Secondary and tertiary disease have different causes, as described above.

How is it diagnosed

- Primary disease is assessed with repeated calcium measurements and PTH interpreted together. Urine calcium helps distinguish it from an inherited condition that can also cause high calcium.
- Kidney function and vitamin D levels.
- Bone density scan (DEXA) to assess bone strength.

- Scans can help plan an operation, but blood tests establish the diagnosis. A scan that does not locate an abnormal gland does not rule out primary disease.

Treatment options

- Parathyroidectomy can cure primary disease by removing the overactive gland or glands, although treatment is not always successful. The decision depends on calcium levels, symptoms, complications and your preferences.
- Monitoring may be appropriate after specialist review. Surgery can still be considered without obvious symptoms, particularly if calcium is markedly raised or there is bone or kidney disease.
- Medicines may be used to lower calcium or protect bones in selected patients. Secondary disease needs treatment of its cause; calcium, vitamin D and kidney-related medicines require specialist monitoring.
- Treating the underlying cause – e.g. vitamin D replacement, optimising kidney disease management.

Self-care and monitoring

- Attend regular blood tests as advised (calcium, kidney function).
- Keep hydrated, but follow any fluid restriction advised for kidney or heart disease.
- Maintain a balanced diet with adequate calcium unless told otherwise.
- Do weight-bearing exercise to support bone health.
- Avoid smoking and limit alcohol.

When to seek medical advice

Seek urgent medical assessment for new confusion, repeated vomiting, marked weakness, dehydration or severe abdominal or flank pain. These symptoms can have several causes, including very high calcium.

Call 999 if you collapse, are difficult to wake or have severe breathing difficulty.

About this information

This leaflet explains the condition and common treatment choices. Your care team will advise what is suitable for you. If you have an operation, follow the specific preparation and aftercare instructions provided by your hospital.

Further information

NICE NG132 recommendations

NHS hyperparathyroidism