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Chvostek's sign: a video demonstration

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DESCRIPTION

A 53-year-old lady was referred to the Endocrinology department of our institute for management of postsurgical metabolic complaints following near total thyroidectomy done elsewhere for obstructive nodular goitre 2 weeks back. She was started on thyroxine of 150 mcg and calcium of 3 g in divided doses postoperatively. Her clinical evaluation showed her to have positive Chvostek's (video 1) and delayed Trousseau's sign. Her calcium was documented to be 1.4 mmol/l (normal range (NR) 2–2.5), phosphate 2.4 mmol/l (NR 0.8–1.5) and iPTH 0.5 pmol/l (NR 1.2–5.8). Her FT4 was 12.2 pmol/l (NR 10.3–23.2) and thyroid stimulating hormone was 3.8 mIU/l (NR 0.5–4.5). Her biopsy was confirmed to be nodular goitre. Postsurgical hypothyroidism with hypoparathyroidism was diagnosed. She was additionally started on calcitriol (0.25 mcg twice daily) and calcium dose modified (2 g in divided doses) and soon her Chvostek's sign resolved. High doses of calcium may not be sufficient in the management of hypoparathyroidism and often requires addition of active vitamin D.

Chvostek's sign was attributed initially to increased sensitivity of the facial nerve to mechanical stimuli in idiopathic epidemic tetany.^{1 2} Traditionally, it is elicited by tapping on the face at a point just anterior to the ear and just below the zygomatic bone.³ A positive response is represented by twitching of the ipsilateral facial muscles, suggesting neuromuscular excitability caused by hypocalcaemia. Although, classically described with hypocalcaemia due to hypoparathyroidism, it is also elicited in some young healthy children and alkalotic states as during vomiting and hyperventilation. It is very easy to test in clinical practice compared with Trousseau's sign and hence its clinical significance.

Learning points

- ▶ A positive Chvostek's sign represents increased neuromuscular excitability caused by hypocalcaemia.
- ▶ It can be even elicited in some young healthy children and alkalotic states following vomiting and hyperventilation.
- ▶ Resolution of Chvostek's sign occurs with effective treatment of hypoparathyroidism with calcium and active vitamin D.

Video 1 Video clip demonstrating Chvostek's sign in post-thyroidectomy patient.

Competing interests None.

Patient consent Obtained.

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Please cite this article as follows (you will need to access the article online to obtain the date of publication).

Kamalanathan S, Balachandran K, Parthan G, Hamide A. Chvostek's sign: a video demonstration. *BMJ Case Reports* 2012;10.1136/bcr-2012-007098, Published XXX

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