

This unusual seizure variant is a reminder that there are a multitude of syndromes beyond tonic–clonic seizures and absence. Epileptogenic foci within the frontal lobes in particular can lead to such unusual manifestations as complex automatisms (as seen here), laughter, crying, sexualized behaviour, yelling or speech arrest (Clarke et al, 2015). **BJHM**

Clarke C, Howard R, Rossor M, Shorvon S. 2011. *Neurology: A Queen Square Textbook*. London: Wiley-Blackwell

Ferrier D. 1874. Experiments on the brain of monkeys – No. 1. *Proceedings of the Royal Society of London* 23:409–432

Gitelman DR, Parrish TB, Friston KJ, Mesulam MM. Functional anatomy of visual search: regional segregations within the frontal eye fields and effective connectivity of the superior colliculus. *Neuroimage*. 2002 Apr;15(4):970–982. <https://doi.org/10.1006/nimg.2001.1006>

Johnson LA, Wander JD, Sarma D, Su DK, Fetz EE, Ojemann JG. Direct electrical stimulation of the somatosensory cortex in humans using electrocorticography electrodes: a qualitative

and quantitative report. *J Neural Eng*. 2013 Jun 01;10(3):036021. <https://doi.org/10.1088/1741-2560/10/3/036021>

Pavisis IM, Firth NC, Parsons S et al. Eyetracking metrics in young onset Alzheimer's disease: a window into cognitive visual functions. *Front Neurol*. 2017 Aug 7;8:377. <https://doi.org/10.3389/fneur.2017.00377>

Further reading

Ferrier D. Croonian Lectures on the Significance of the Cerebral Cortex: Delivered before the Royal College of Physicians of London, June, 1890. *BMJ*. 1890;1(3052):796–797.

Grosbras MH, Paus T. Transcranial magnetic stimulation of the human frontal eye field: effects on visual perception and attention. *J Cogn Neurosci*. 2002 Oct;14(7):1109–1120. <https://doi.org/10.1162/089892902320474553>

Muggleton NG, Juan CH, Cowey A, Walsh V. Human frontal eye fields and visual search. *J Neurophysiol*. 2003 Jun;89(6):3340–3343. <https://doi.org/10.1152/jn.01086.2002>

Vernet M, Quentin R, Chanes L, Mitsumasa A, Valero-Cabré A. Frontal eye field, where art thou? Anatomy, function, and non-invasive manipulation of frontal regions involved in eye movements and associated cognitive operations. *Front Integr Neurosci*. 2014 Aug 22;8:66. <https://doi.org/10.3389/fnint.2014.00066>

LEARNING POINTS

- The frontal eye fields are regions within the frontal lobes of the brain that govern visual attention.
- Dysfunction of the frontal eye fields is an early sign of fronto-temporal dementia.
- Seizures drive gaze away from the side of the lesion, infarcts drag gaze towards the side of the lesion.
- There are many seizure syndrome variants. Repetitive, stereotyped behaviour should prompt the clinician to consider seizures in the differential diagnosis.

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Walker R, Techawachirakul P, Haggard P. Frontal eye field stimulation modulates the balance of salience between target and distractors. *Brain Res*. 2009 May;1270:54–63. <https://doi.org/10.1016/j.brainres.2009.02.081>

Images in Medicine

Gorham–Stout disease and ventricular tachycardia

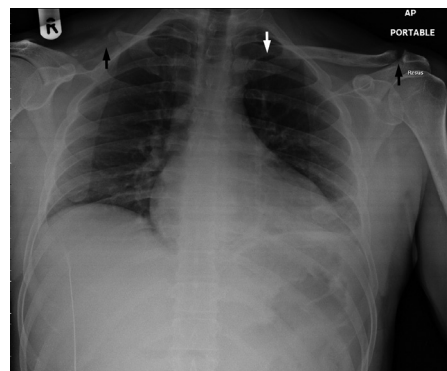
A 41-year-old man with a history of Gorham–Stout disease affecting his clavicles presented with a fast monomorphic ventricular tachycardia. He reverted to sinus rhythm following a single DC shock of 100J. Gorham–Stout disease is a rare idiopathic disease characterized by extensive loss of the bone matrix (Gorham and Stout, 1955).

The chest radiograph (*Figure 1*) revealed clearly defined partial loss of the right clavicle and osteolysis of the left clavicle. Cardiac magnetic resonance imaging (*Figure 2*) demonstrated a severely dilated left ventricle

with a reduced ejection fraction of 29%, and evidence of a transmural myocardial infarction of the apical lateral wall.

In view of this presentation, in line with National Institute for Health and Care Excellence (2014) guidelines, a biventricular defibrillator (Medtronic DTBA2QQ Viva XT Quad) was implanted. Owing to the potential complications of lead fracture and displacement from the affected clavicles, extra vigilance was needed during the procedure. **BJHM**

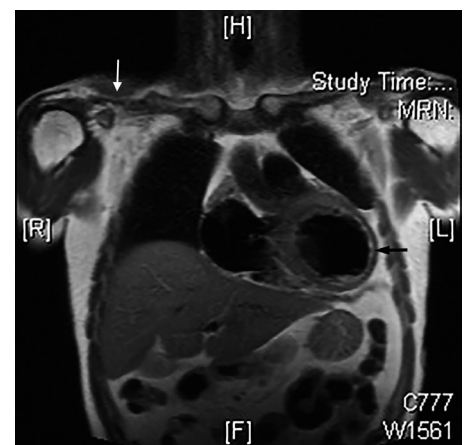
Figure 1. Chest radiograph revealed clearly defined partial loss of the right clavicle and left clavicle (black arrows) and an area of osteolysis (white arrow).



Gorham LW, Stout AP (1955) Massive osteolysis (acute spontaneous absorption of bone, phantom bone, disappearing bone); its relation to hemangiomatosis. *J Bone Joint Surg* 37(5): 985–1004. <https://doi.org/10.2106/00004623-195537050-00008>

National Institute for Health and Care Excellence (2014) Implantable cardioverter defibrillators and cardiac resynchronisation therapy for arrhythmias and heart failure. Technology appraisal guidance TA314. www.nice.org.uk/guidance/ta314 (accessed 25 February 2018)

Figure 2. Cardiac magnetic resonance imaging confirmed the severely impaired left ventricle (black arrow) and the osteolytic process affecting mainly the right clavicle (white arrow).



Dr Sofia Metaxa, Consultant, Department of Cardiology, Frimley Health NHS Foundation Trust, Slough, Bucks

Dr Adam Ioannou, Senior House Officer, Department of Cardiology, Royal Free Hospital, London

Dr Constantinos G Missouris, Consultant, Department of Cardiology, Frimley Health NHS Foundation Trust, Slough, Bucks and International Centre for Circulatory Health, NHLI, Imperial College, London

Correspondence to: Dr CG Missouris (dinos.missouris@fhft.nhs.uk)