Persistent diffuse deep T wave inversion: An ECG manifestation of myasthenia gravis in crisis: A case series
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Myasthenia gravis (MG) is an autoimmune disorder directed against acetylcholine receptors. Despite the absence of these receptors in cardiomyocytes, asymptomatic ECG changes, tachyarrhythmias, myocarditis, and sudden death have been documented. We report two cases of MG presenting with deep diffuse persistent T wave inversions as a marker for possible MG related cardiac disease. A 68 year-old female, diagnosed with MG, post thymectomy for malignant thymoma in 2013, was admitted for progressive weakness, pleuritic chest pain and cough. ECG showed regular sinus rhythm, normal axis, low voltage complexes on limb leads, poor R wave progression, prolonged QT interval, diffuse T wave inversion on all leads. Troponin I level was borderline elevated however, monitoring of troponin was negative. Echocardiography revealed concentric left ventricular hypertrophy with good contractility. ECG monitoring showed deepening diffuse symmetric T wave inversion. Due to the low CAD risk, this was interpreted as non-ischemic and was attributed to MG’s autoimmunity. Antibiotics, pyridostigmine, prednisone and plasmapheresis were given. She remained stable throughout the course. Repeat ECG a month showed normalization of T wave inversion. A 29 year old female was admitted for MG crisis. ECG revealed sinus tachycardia, with upright T waves. On Day eight, patient developed sepsis induced hypotension and repeat ECG showed 2 mm ST elevation on V2-V3 with 3 mm T wave inversion on lateral leads. Serial ECG showed deepening of T wave inversion on V2-V6 (deepest 7 mm). The cardiac enzymes, echocardiogram and electrolytes were normal. With medical management, the patient was discharged. The dynamic ECG changes were attributed to possible immunologic myocarditis, which can present with deep T wave inversions. This case report highlights that clinicians should be aware that MG can present with this ECG feature, albeit seemingly alarming, usually follows a benign course and resolves with the resolution of MG crisis.

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Posterior thoracolumbar corpectomy and reconstruction with two small cages
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The combined posterior-anterior approach has been widely employed for single level corpectomy in destructive thoracolumbar spinal disease. However, anterior corpectomy and fixation is technically demanding and has several disadvantages. Therefore, we tried the posterior approach only for decompression and circumferential reconstruction. From July 2013 to December 2015, 10 consecutive patients were treated at our institution using this technique in various spinal disease including burst fracture, osteoporotic compression fracture and deformity. After performing subtotal or total corpectomy with upper and lower discectomy were performed, 360-degree reconstruction with two small titanium mesh cages insertion and correction of kyphosis by posterior transpedicular screw fixation were performed. Clinical and radiological data were retrospectively analyzed. All 10 patients (two male and eight female, mean age: 68.2 years) suffered from severe kyphotic deformity with or without neurological deficits. Mean surgical time was 374 minutes. Mean blood loss was 1220 mL. All patients experienced pain relief after the procedure. There was no intraoperative complication and newly developed neurological deficit after surgery. A successful restoration for kyphotic change was achieved in all patients and maintained during follow-up period. This operation is a reliable, effective, safe and less invasive treatment option and can be a good alternative modality for various spinal diseases. Long-term follow-up study with large number will be required to clarify the effectiveness of this technique in the future.

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