Peripheral paraneoplastic sensorimotor polyneuropathy as the presenting symptoms of rectal cancer

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DESCRIPTION

A 64-year-old man with a history of impaired glucose tolerance on diet control, hypertension and minor stroke with good recovery, presented after 4 months of progressive weakness in all his limbs. He reported neuropathic pain and reduced sensation in both lower limbs. He also had progressive dysphagia for a few weeks. Physical examination showed wasting of tongue, upper and lower limb muscles, and generalised fasciculations. His reflexes were absent. Tests showed a normal full blood count; carcinoembryonic antigen was 6.1 ng/mL ($N < 5.5$); nerve conduction test (NCT) showed sensorimotor polyneuropathy with predominantly axonal involvement (figure 1A, B); electromyography showed neurogenic changes with active denervation in biceps, first dorsal interossei, vastus lateralis, tibialis anterior and T10 thoracic paraspinal muscles; MRI of the whole spine showed mild degenerative changes; whole body positron emission tomography (PET)-CT scan revealed abnormal hypermetabolic bowel wall thickening in

the upper rectum extending to rectosigmoid joint (figure 2); colonoscopy showed an ulcerative rectal tumour at posterior wall, which biopsy confirmed to be adenocarcinoma; and MRI of the rectum showed carcinoma of the rectum with perirectal extension and posterior mesorectal fascia involvement, and probable regional lymphadenopathies (figure 3A–C). His condition was complicated by hospital-acquired pneumonia and he succumbed before the operation.

Sensory neuropathies are the most frequent paraneoplastic neuropathies, however, sensorimotor polyneuropathies associated with colorectal carcinoma are rare.¹ Lower motor neuron degeneration in the spinal cord has been noted during autopsy and is considered to be a common cause of motor deficits in patients with paraneoplastic neuropathies.² The dysphagia of this patient was likely due to involvement of the hypoglossal nerves. There are case reports that several onconeural antibodies, including anti-Hu, anti-CV2/CRMP-5, antiganglionic acetylcholine receptor antibodies,³ anti-VGCC,

Figure 1 (A) NCT showed reduced amplitude of compound motor action potential and conduction slowing in right median nerves, which was suggestive of polyneuropathy with predominantly axonal involvement. (B) NCT showed reduced amplitude of compound motor action potential and conduction slowing in left median nerves, which was suggestive of polyneuropathy with predominantly axonal involvement.

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Figure 2 Positron emission tomography (PET)-CT scan revealed abnormal hypermetabolic bowel wall thickening in the rectum.

LGI1, Caspr²⁴ and anti-SOX1,⁵ are associated with paraneoplastic neuropathy. However, onconeural antibodies are uncommon and they were not checked for in our patient. Paraneoplastic syndromes of sensory and motor neurons and peripheral nerves are frequently not associated with an identifiable onconeural antibody. As neuropathic symptoms usually precede the detection of cancer,⁶ whole-body PET/CT is helpful in investigating for underlying cancer.

Figure 3 (A) MR T2-weighted image showed circumferential mural thickening in the mid rectum, which was suggestive of carcinoma of the rectum. (B) MR T1-weighted image with gadolinium contrast showed an irregular enhancing mass in the mid rectum. (C) MR diffusion-weighted imaging showed fluid restriction in the rectal mass.

Learning points

- ▶ Peripheral paraneoplastic sensorimotor polyneuropathy as the presenting symptom of rectal cancer is rare.
- ▶ Paraneoplastic syndromes of sensory and motor neurons and peripheral nerves are frequently not associated with an identifiable onconeural antibody.

Competing interests None.

Patient consent Obtained.

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