faecal incontinence (n = 4) or erectile dysfunction (n = 3; all male patients). Anorectal electrophysiology was performed in two patients, both consistent with bilateral pudendal neuropathies (Web table 1). MRI studies (fig 1) showed: scattered cerebral white matter hyperintensities in all three patients in whom this test was performed; asymmetrical left frontotemporal atrophy consistent with clinical FTD and an atrophic cord especially around the conus in II:18; and fatty change and atrophy of the gluteal muscles and low muscle volume in the quadriceps and hamstring groups in III:14. A muscle biopsy from II:14 is shown in online fig 2.

DISCUSSION

IBMPFD presents as a multisystem disorder affecting brain, skeletal and cardiac muscle,[3] spinal cord and bone.[1 4] The R155H mutation, an arginine-to-histidine substitution in the N-terminal CDC48 domain of the VCP protein, results in loss of VCP function[5] and is found exclusively in individuals affected with IBMPFD.[1] Clinical reports of this disease are scarce.[1 2 4] Family members usually presented with proximal weakness, progressing to wheelchair disability and premature death. The average age of muscle weakness onset, as a familial average, was 34, contrasting with previous studies (43[2] and 57[4]). The dementia frequency within this pedigree was 44% compared with 30%,[1] 70%,[4] and 100%[4] in other studies. As some patients may have prematurely died of myopathy- or cardiomyopathy-related complications, it was difficult to assess FTD penetrance.

Four out of five investigated members of this pedigree had echocardiographic features of cardiomyopathy.[3] This is the first clinical description of cardiomyopathy in a molecularly confirmed VCP mutation. Recent postmortem findings have found a dilated and hypertrophic cardiomyopathy in one patient with IBMPFD.[3]

The new observation in this pedigree is the presence of prominent sphincter disturbance involving bladder, bowel and erectile function in all five assessed pedigree members. Other factors could partially explain these symptoms: for example, functional obstructive defaecation may be partly responsible for the clinical picture of pudendal neuropathy seen in III:13. However, this is associated with a reduction in sphincter tone, a feature not seen during anorectal physiology. Moreover, III:15 had pudendal neuropathy with no history of longstanding constipation. In III:13, III:14 and III:15, erectile failure may be partly explained by psychogenic factors. Nonetheless, the similarity of sphincter symptoms between all patients and in particular four relatively young patients (III:3, III:13, III:14, III:15) is striking. We therefore conclude that IBMPFD is likely to be associated with sphincter disturbance. The presence of spinal cord atrophy in one patient (II:18) and previous work showing ubiquitin-positive nuclear inclusion bodies in the spinal cord in IBMPFD[4] suggest that sphincter disturbance in IBMPFD could arise from both spinal cord and nerve pathology.

Brain MRI demonstrated a mild excess of white matter abnormalities in all three examined. Right temporal lobe atrophy and cord atrophy were seen in an older patient, correlating with her clinical FTD. This is in agreement with one other MRI brain study of IBMPFD,[3] while another described progressive cerebral atrophy with prominent callosal and frontal white matter loss.[5] Spinal cord atrophy is a previously undescribed feature of IBMPFD and is consistent with pathological findings of spinal cord inclusion bodies.[4] A recent report describes MRI muscle findings in IBMPFD of "fatty degeneration" throughout predominantly proximal muscle groups,[3] in agreement with current findings.

Members of this pedigree had been previously given other diagnoses including various muscular dystrophies and spinal muscular atrophy. MND had been diagnosed in some patients because of denervation on neurophysiology (online table 1).

In conclusion, IBMPFD is a multisystem disorder, which should be considered in the differential diagnosis of autosomal dominant neuromuscular disorders, especially when there is a prominent history of dementia or "MND." Sphincter involvement is a likely associated clinical feature of the disease.

T D Miller,[1] A P Jackson,[2] R Barresi,[3] C M Smart,[1] M Eugenicos,[4] D Summers,[1] S Clegg,[5] V Straub,[3] J Stone[1]

[1] Department Clinical Neurosciences, University of Edinburgh, Western General Hospital, Edinburgh, UK; [2] MRC Human Genetics Unit, Western General Hospital, Edinburgh, UK; [3] Institute of Human Genetics, University of Newcastle upon Tyne, International Centre for Life, Newcastle upon Tyne, UK; [4] Gastrointestinal Unit, Western General Hospital, Edinburgh, UK; [5] South East of Scotland Clinical Genetics Service, Western General Hospital, Edinburgh, UK

Correspondence to: Dr J Stone, Department Clinical Neurosciences, University of Edinburgh, Western General Hospital, Crewe Road, Edinburgh EH4 2XU, UK; jon.stone@ed.ac.uk

Acknowledgements: L Strain is thanked for technical help in establishing the VCP mutation analysis.

Funding: None.

Competing interests: None.

Patient consent: Obtained.

► An additional table and figures are published online only at http://jnnp.bmj.com/content/vol80/issue5

Received 5 March 2008
Revised 4 June 2008
Accepted 8 July 2008

J Neurol Neurosurg Psychiatry 2009;**80**:583–584.
doi:10.1136/jnnp.2008.148676

REFERENCES

1. **Watts GDJ,** Wymer J, Kovach MJ, *et al*. Inclusion body myopathy associated with Paget disease of bone and frontotemporal dementia is caused by mutant valosin-containing protein. *Nat Genet* 2004;**36**:377–81.
2. **Kovach MJ,** Waggoner B, Leal SM, *et al*. Clinical delineation and localization to chromosome 9p13.3–p12 of a unique dominant disorder in four families: hereditary inclusion body myopathy, Paget disease of bone, and frontotemporal dementia. *Mol Genet Metab* 2001;**74**:458–75.
3. **Hubbers CU,** Clemen CS, Kesper K, *et al*. Pathological consequences of VCP mutations on human striated muscle. *Brain* 2006;**130**:381–93.
4. **Guyant-Marechal L,** Laquerriere A, Duyckaerts C, *et al*. Valosin-containing protein gene mutations: clinical and neuropathologic features. *Neurology* 2006;**67**:644–51.
5. **Krause S,** Göhringer T, Walter MC, *et al*. Brain imaging and neuropsychology in late-onset dementia due to a novel mutation (R93C) of valosin-containing protein. *Clin Neuropathol* 2007;**26**:232–40.

CORRECTION

doi:10.1136/jnnp.2008.158303corr1

M P T Lunn, H J Willison. Diagnosis and treatment of inflammatory neuropathies (*J Neurol Neurosurg Psychiatry* 2009;**80**:249–58). There is a dosage error in this paper. In the last paragraph on page 255 the dose of prednisolone should be 1mg/kg not 1g/kg as printed.