

65 year old right handed female

PC

- Difficulty walking

HPC

- She noticed her right foot was weak approximately 4 weeks ago.
- This is slowly getting worse and she now finds it difficult walking up the stairs.
- There is no pain or sensory symptom. Her family report issues with her behaviour, in particular she has become emotionally labile which has been a change from her usual disposition.
- Her family report no change in her cognition.

PMHx

- Type 2 Diabetes

PSHx

- Nil

DHx

- Metformin 500mg BD

SHx

- Non-smoker, occasional alcohol
- Lives at home with husband
- Independent for all activities

Examination

BP 120/88

HR 90

I+II+O



Sats 98%

RR 16



Inspection: Wasting and fasciculation in the right quadriceps and wasting of the tibialis

Cranial Nerves

	R	L
I	N	N
II	N	N
III, IV, VI	N	N
V	N	N
VII	N	N
VIII	N	N
IX, X, XI	N	N
XII	N	N
	R	L
Cerebellar	N	N
Pin Prick	N	N
JPS	N	N
Vib	N	N

Upper Limb

	R	L
Tone	N	N
Sh Ab	5	5
EF	5	5
EE	5	5
WE	5	5
FE	5	5
FDI	5	5
APB	5	5
Biceps	++	++
Triceps	++	++
Supinator	++	++

Lower Limb

	R	L
Tone	N	N
HF	4	5
HE	4+	5
KF	4	5
KE	4	5
APF	5	5
ADF	3	5
AI	5	5
Knee	+++	+++
Ankle	+++	+++
Plantar	↑	↓

Stop and think:

- **What are the main abnormalities on examination? Are the motor abnormalities affecting upper motor neurones, lower motor neurones or both?**
- **Are you able to localise the site of pathology?**
- **What investigations would you want to perform?**

Progress

A month later she is admitted to hospital with a pneumonia. There has been a recent deterioration in swallowing and she has been coughing during meals. Her voice is now very quiet and she has started to drool.

She is treated as an aspiration pneumonia and a Neurology review is requested on the ward.

Neurological Examination

Inspection: Fasciculation's in the deltoids, biceps and triceps as well as quadriceps, and tibialis anterior.

Cranial Nerves	Upper Limb		Lower Limb					
	R	L	R	L				
I	N	N	Tone	N	N			
II	N	N	Sh Ab	5	5	HF	4	5
III, IV,	N	N	EF	5	5	HE	4+	5
VI			EE	5	5	KF	4	5
V	N	N	WE	5	5	KE	4	5
VII	N	N	FE	5	5	APF	5	5
VIII	N	N	FDI	5	5	ADF	3	5
IX,X,XI	Reduced palatal elevation	Reduced palatal elevation	APB	5	5	AI	5	4
XII	Fasciculation's	Fasciculation's	Biceps	++	++	Knee	+++	+++
			Triceps	++	++	Ankle	+++	+++
			Supinator	++	++	Plantar	↑	↑

	R	L
Cerebellar	N	N
Pin Prick	N	N
JPS	N	N
Vib	N	N

Stop and think:

- **Based on the progression of symptoms what do you think is the likely diagnosis?**
- **What are the main management concerns at this stage?**



Useful websites:

<https://www.mndaust.asn.au/Home> MND Australia

<https://www.mndassociation.org/> MND association UK

<http://www.mndregistry.org.au/> Australian MND Registry