

DAT SCAN Audit

November 2014

Dr Duncan Gray

Audit of practice in DAT SCAN requesting

DAT Scan established to assist in differentiation between ET and Parkinsonian dopamine deplete syndromes

Ioflupane selectively binds presynaptically to the DaT receptors within the striatum of the brain.

Aim: Establish appropriate requests for DAT scan in a DGH

What are the prescan diagnoses

Who is using this scan

How often is there a difference in the outcome from the expected pretest diagnosis

What difference to treatment did it make

Methodology

All DATscans from 2013 reviewed performed in our DGH which serves a population of 225,000

SCI store (Scottish Care Information) utilized to review clinic letters and results of scans, as well as opportunity to review other radiological investigations undertaken in these patients.

Indication for requesting DATscan

- In patients with clinically uncertain Parkinsonian Syndromes, in order to help differentiate Essential Tremor from Parkinsonian Syndromes related to idiopathic Parkinson's Disease, Multiple System Atrophy and Progressive Supranuclear Palsy. DaTSCAN is unable to discriminate between Parkinson's Disease, Multiple System Atrophy and Progressive Supranuclear Palsy.
- To help differentiate probable dementia with Lewy bodies from Alzheimer's disease. DaTSCAN is unable to discriminate between dementia with Lewy bodies and Parkinson's disease dementia.

Results

Average age 61.4 years **Range** 18-84

Gender male 20;female 25

Previous radiological investigations

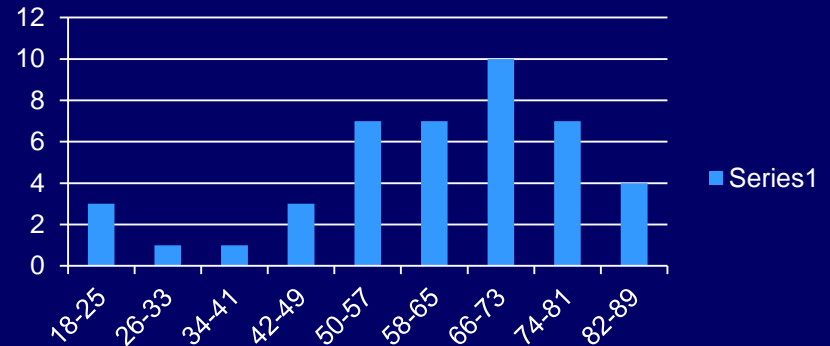
MRI brain 18 MRI Spine 7 CT Head 17
CERETEC 1 nil 10

Requestors; Neurology 32, Psychiatry 7
Geriatrics 6

DATscan results

Abnormal 20 Normal 20 Equivocal 5

DAT scan patient age



Results

Breakdown into pretest diagnosis

Parks 13 7F 62 10 Abnormal

ET 11 6F 59.8 ; 8 Normals ;one to be repeated 18 months one definite PD with family history of 'tremor' one not PD clinically

Chorea/tics 6 4F 37.7;5 Normal ,1equivocal 15 years duration cervical dystonia

Atypical 2 2M 67 MSA, PSP

Dementia 7 3M 79 3 positive

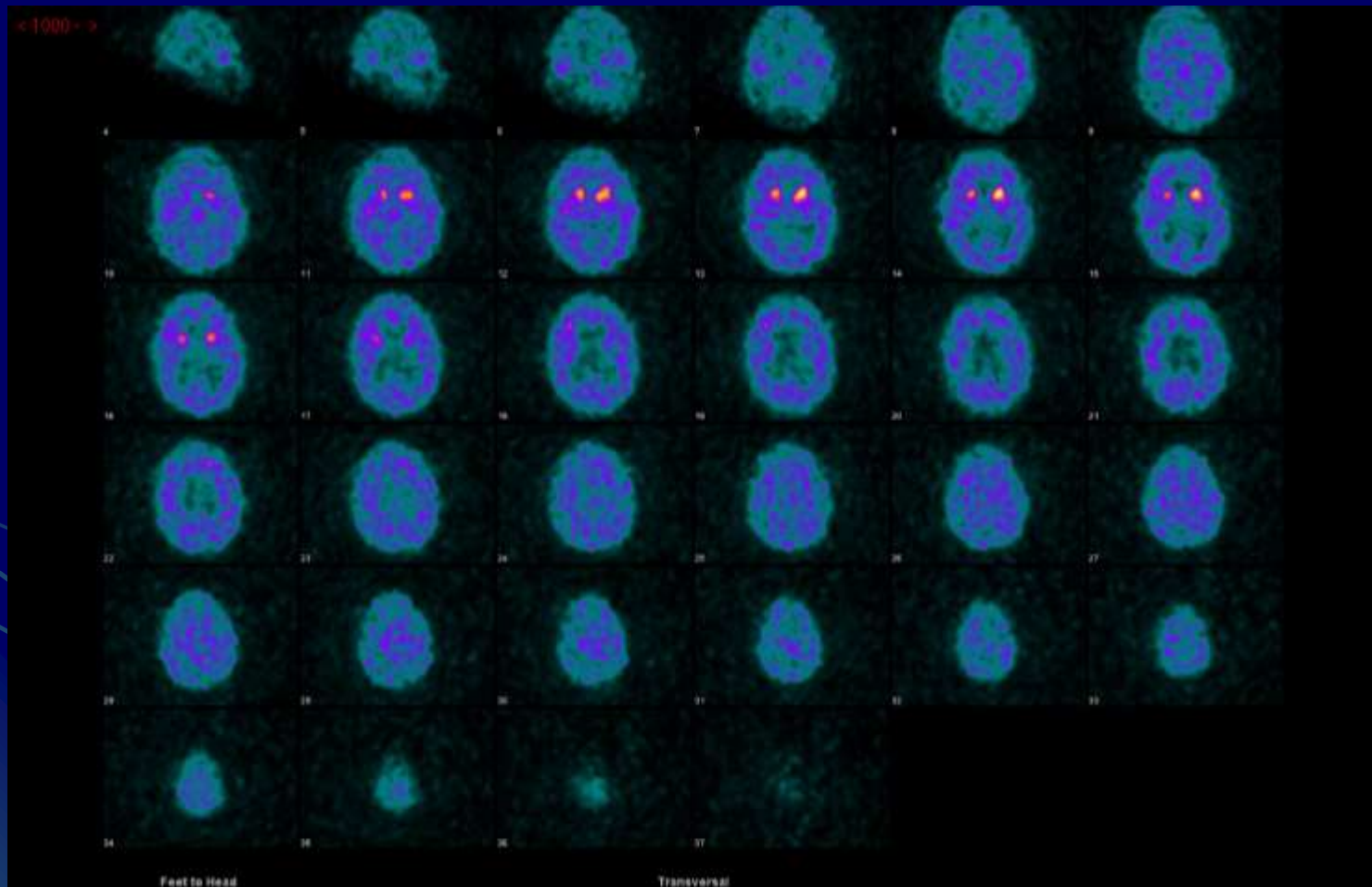
Drugs strokes1 flupentixol

Alcohol 1F abnormal monitoring

MS 1normal

NPH 1 76 F

? NPH



Conclusions

- DATscans are promoted for use in differentiating between essential tremor and idiopathic parkinson's, and in the differentiation of Lewy Body Dementia from other dementia syndromes
- In this review the diagnostic dilemmas seen in practice are evident.
- As a secondary point the number of other investigations carried out is considerable.
- Datscans can be useful in distinguishing non dopamine delpetion syndromes, but often clinical suspicion is nearly as accurate
- There are still concern as to the number of false positives that occur.
- Future plan to reaudit 2015 figures and assess if more appropriate use of DATscan as an investigation in the management of Movement disorders once the 2013 data presented to relevant clincial groups