



FIT TO FLY?

A330 CAPTAIN FOLLOWING TIA

THE PILOT

- ▶ 51 YO
 - ▶ ATPL 24000 Hrs
 - ▶ Captain A330
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THE EVENT

- ▶ 1 / 1 / 2016
 - ▶ Weakness left arm & leg
 - ▶ slurred speech – expressive dysphasia
 - ▶ DURATION < 1 HR
 - ▶ Admitted RPH – physical examination normal
 - ▶ DIAGNOSED TIA
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INVESTIGATIONS

- ▶ ECG SR 1st deg HB T inversion lead 3
- ▶ CXR normal
- ▶ CT angio no stenosis carotid/vertebral arteries
- ▶ Cerebral MRI/MRA normal
- ▶ No evidence of infarction
- ▶ Bloods NAD
 - Chol 4.5 TG 1.1 HDL 1.0 LDL 3.0
 - Thrombophilia & vasculitis screens negative
 - 24 hr Holter normal

SUMMARY

- ▶ ALL SYMPTOMS RESOLVED WITHIN 1 HOUR OF ONSET
- ▶ CVS & NEUROLOGICAL EXAM NORMAL
- ▶ INVESTIGATIONS:
 - ECG & CT ANGIOGRAPHY NORMAL
 - BRAIN MRI / MRA NORMAL
 - BLOODS – NO SIGNIFICANT CVS RISK FACTORS
- ▶ PROPHYLACTIC ASPIRIN ONLY

AEROMEDICAL IMPLICATIONS

- ▶ Effect of Aviation on condition
 - Hypoxia lowers seizure threshold
- ▶ Effect of Condition on Aviation
 - Neuropsychological impairment
 - Concentration, memory, attention
 - Overt incapacitation from recurrent event
 - Co-morbid conditions causing event
- ▶ Effect of treatment on Aviation
 - Haemorrhagic risk

CASA STANDARD & DECISION

- ▶ Mandatory 12 month grounding
 - ▶ Medical certificates Class 1 & 2 cancelled
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RENEWAL CRITERIA

- ▶ No further neurological episodes
- ▶ No cardiac episodes
- ▶ Neurologist report
- ▶ Cardiologist report
- ▶ Control of CVS risk factors without side effects
- ▶ Prognosis:
 - Opinion with references

STATUS AT 12 MONTHS

- ▶ Clinically well with no neurologic or cardiac episodes or abnormalities BMI 24 BP 120/70
- ▶ Negative 48Hr Holter
- ▶ Negative trans-oesophageal echo
- ▶ Normal blood screening:
 - Lipids
 - Vasculitis
 - Thrombophilia
 - Alpha galactosidase (excluding Fabry disease)

RISK OF RECURRENCE

- ▶ Consultant Neurologist report
 - No risk of post event seizure
 - Low (estimated <1%) annual risk of recurrence
- ▶ CASA request for evidence regarding risk assessment:
 - Specialist referred matter to specialist “stroke unit”

PROGRESS OF CASE

- ▶ Pilot advised DAME of 2 month delay in accessing consultation with “stroke unit” specialist
- ▶ DAME submits paper to CASA – “One year Risk of Stroke after Transient Ischaemic Attack or Minor Stroke” N Engl J Med 2016; 374:1533–1542
- ▶ ABCD2 score 3 – 1% risk at 12 months
 - However pilot has no risk factors cf most study subjects

ABCD2

- ▶
 - Age 60 years or over
 - Blood Pressure
 - 140+ systolic OR
 - 90+ diastolic
 - Clinical Features of TIA
 - Unilateral weakness with OR without speech impairment OR speech impairment alone
 - Duration
 - 60+ minutes
 - 10 – 59 minutes
 - Diabetes
- ▶ TOTAL

▶ POINTS	PILOT
• 1	0
• 1	0
• 2	2
• 2	
• 1	1
• 1	0
• 0-7	3

ABCD3

- ▶ ABCD2 +
 - DUAL TIA add 2 points

ABCD3-I

- ▶ ABCD2 +
 - DUAL TIA add 2 points
- ▶ Ipsilateral Stenosis Internal Carotid
 - Add 2 points
- ▶ Acute diffusion weighted imaging hyperintensity
 - Add 2 points


EVIDENCE v EMINENCE

- ▶ CASA takes no action until report received from “stroke unit specialist”
- ▶ That report estimates risk of recurrent stroke at $< 1\%$ annually – BUT no references to substantiate
- ▶ CASA refers to another specialist neurologist
- ▶ Final report received at 18 months post incident

EVIDENCE v EMINENCE

- ▶ CASA appointed specialist
 - 2 papers quoted
 - 2005 and 2014
- ▶ “ If forced to offer an estimate”
- ▶ Risk about $\frac{1}{2}$ that of the entire group of TIA patients at approximately 1% per year

CASA DECISION

- ▶ Issued 18 months after initial event:
 - ▶ Class 1 – as or with qualified co-pilot
 - ▶ Class 2 – with safety pilot only
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QUESTION 1

- ▶ Recertification following TIA may pose a risk to aviation because of:
 - A) Epileptic seizure
 - B) Subtle neuropsychological impairment
 - C) Residual memory impairment
 - D) Occurrence of co-morbid conditions
 - E) All of the above

QUESTION 2

- ▶ All the following are true of medical recertification following TIA except:
 - A) May be at 6 months following a “mild” TIA
 - B) Requires absence of co-morbidities
 - C) Requires no increased seizure risk
 - D) Requires recurrent TIA risk $<1\%$ p.a.
 - E) Requires no cardiac or neurological event since TIA

QUESTION 3

- ▶ Components of the ABCD2 score include all except:
 - A) Age
 - B) Blood pressure
 - C) Duration of symptoms
 - D) Diabetes
 - E) Dementia