T-LOC/Blackouts

Sister Sarah Collitt
on behalf of
Dr Adam P Fitzpatrick

Manchester Royal Infirmary
Syncope
- 35% - 1 in 3 in a lifetime
- 6.2/1000 patient yrs
- 10.5% over 17 years
- ~25% of all groups
- 1 in 3 elderly pts

Non-T-LOC
Includes:
- Falls, CVA, TIA, RTA, intoxication, metabolite abnormalities etc.

Collapse-?-Cause

T-LOC = 1-3% of A&E and 3-6% of admissions
The truth about 13-year-old Becky's blackouts came too late

by BARBARA LANTIN - More by this author

Last updated at 11:59am on 26th April 2007

Comments (3)

On Easter Monday 2004, three generations of the Holt family went for a walk in the Lancashire countryside. A treasured photo shows them all smiling as they tuck into ice cream.

In the evening, 13-year-old Becky, her identical twin sister Sophie, their dad and grandfather watched the Blackburn Rovers match on television. Blackburn beat Fulham 3-2 and Becky went to bed thrilled. By 7.30am the next morning she was dead.

Three months earlier, Becky had started medication for epilepsy after she'd had a series of seizures. These began when she was ten years old.

For more than three years she'd been monitored by her local hospital in Blackburn and seen by at least five doctors, who eventually diagnosed epilepsy.

But she did not have epilepsy. Within a week of Becky's death, her sister Sophie suffered a similar seizure and was diagnosed with the rare heart rhythm disorder 'Long QT syndrome'.

It was this, her family then found out, that killed Becky. The Royal Blackburn Hospital has since apologised to her parents for their fatal mistake.

Each year, 3,000 to 9,000 people are given a wrong diagnosis of epilepsy.

Overall, between 90,000 and 120,000 people in the UK have been misdiagnosed with the condition.

People who do not have epilepsy can be put on drugs with unpleasant side effects, including loss of concentration.

Scientists hal the face creams that really can hold back the wrinkles

The battle against wrinkles has become a daily concern for many. Now, however, a team of scientists has come up with a novel which should smooth away the frown - some anti-wrinkle creams really do work.

'Queen' Helen and her blushes for Beckham

Dame Helen Mirren was rendered almost speechless at the Greatest Briton Awards as she came face to face with David Beckham.

Revamped testcard gets a touch of Klass

The clown is the same, and the game of noughts and crosses has not progressed in 40 years. But if the familiar face of the young girl seems a little too grown up, that's because the BBC's Test Card has had a Klassy makeover.
35, Male - recurrent blackouts
35, Male - recurrent blackouts
3.5, Female - recurrent blackouts
3.5, Female - recurrent blackouts
The Walton Centre NHS
for Neurology and Neurosurgery
NHS Trust

Lower Lane
Fazakerley
Liverpool L15 1AL
Tel: 0151 529 5589
Fax: 0151 529 5589
Direct Line:

RC/D0/155885
10 October 2006

Dr Adam Fitzpatrick
Consultant Cardiologist
Hope Hospital
Street Lane
Salford
M6 8HD

Dear Adam,

I would be most grateful for your opinion on this very pleasant retired 67-year-old electrician. He has had unusual episodes for 5 years that have been diagnosed in the past as being simple partial seizures. They do tend to occur in little clusters. He gets a metallic taste in his mouth and an instantaneous loss of appetite but without nausea. He has a funny feeling in his stomach. He says he sweats with these episodes and can be pale, but on other occasions his wife says he may be red in the face. They tend to occur after a period of exertion and he thinks they can be precipitated by bending. He thinks that he may be aware of some palpitations associated with them. He can go for up to 2 months without symptoms.

Over the past 5 years he has been taking Lamotrigine 200mg daily. He takes Metformin for type 2 diabetes and is on lipid lowering and anti hypertensive treatments as well as Aspirin. I don't think he has any specific history of cardiovascular or cerebral vascular disease.

My concern is that the diagnosis of epilepsy may be in error given the fact that he has consciousness during any of these episodes. I do think that people quite commonly report metallic tastes and abdominal feelings with syncopal episodes. Given that his events are relatively rare I wonder whether if eventually he might benefit from an implantable loop recorder to reach a definite diagnosis. I would really be very grateful for your opinion about this man. Would you be willing to send him an appointment?

Yours sincerely

D W Chadwick
Professor of Neurology

Please can you advise NHS number, to produce
Fax: 0161 276 8911

Yours sincerely

D W Chadwick
Professor of Neurology

Please note:Manchester Heart Centre
M.R.I.
68, Male - recurrent blackouts
At least 74,000 patients in England alone are misdiagnosed with epilepsy, and taking AEDs inappropriately.
WHY MISDIAGNOSIS?

“fitting” assumed to be neurological

Incontinence?

Tongue biting
Problems with care of patients with blackouts

- Failure to appreciate the clinical manifestations of syncope – ‘convulsive syncope’

- Failure to appreciate that a good history, clinical examination and 12 lead ECG can lead to a diagnosis of syncope in a majority of cases

- Unnecessary/over reliance on investigations, e.g. EEG

- Lack of triage – unnecessary hospitalisation of low risk cases.

- Management in diverse settings – can get stuck in the wrong care pathway

- Recurrences – lack of early reassurance/treatment → re-attendance at A&E’s, impairs QOL

- Misdiagnosis of epilepsy
Quality Requirement Two: Diagnosis and Treatment

10. Service improvements can be achieved locally by several means:

- improving access to a higher level of expertise by development of rapid access multidisciplinary arrhythmia and/or blackouts clinics.
DO WE KNOW HOW TO TACKLE THIS PROBLEM?

For all cases of “Collapse?cause” who had suffered a blackout/T-LOC, we set out to provide:

- a rapid triage (within 2 weeks)
- a structured clinical assessment and
- a 12-lead ECG

...through a weekly, specialist nurse-lead, Rapid Access Blackouts Triage Clinic
Detailed specialist nurse interview using web-based questionnaire

- 3 Specialist nurses: Falls, EP, epilepsy
  - Arrhythmia/Electrophysiology Nurse
  - Sr Nicola Rice, Falls Nurse
  - Sr Pamela Iddon, Epilepsy Nurse
Web-based questionnaire hosted on Trust Intranet
(Initially)
Web-based questionnaire
Demographics Page

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Previous Screen

Next Screen
Web-based questionnaire
Investigations Page

http://www.manchesterheartcentre.org/blackouts/
Triage: Identify High Risk Features

Cardiology:

- Abnormal 12 lead ECG
- Presence of structural heart disease
- Family h/o SCD ≤ 40 years
- T-LOC occurring during exercise
- T-LOC with breathlessness/heart failure

Neurology:

- History of brain injury
- History suggestive of epilepsy
- New neurological deficit

No Red Flags = Low risk
FURTHER EVALUATION

- Doctor supervision
- Echocardiograms
- 24 hour tape
- List for cardiological procedures:
  - Tilt testing, ILR, PPM, EP study etc.
- Referral to other specialists e.g., neurologists, falls teams etc.

return to cardiology clinic for F/Up
RESULTS

- Started in May 2007 ≈ 600 patients
- N= 327 (307 had blackouts) 5/7 - 5/9
- Male: 143 were male (43%)
- Mean age: 51± 21 (range: 16 - 96 years)
PREVIOUS ADMISSIONS

Number admitted: 145 (44%)

Mean admissions: 1.6 ±1.4 (range: 1 - 11)

Admissions:

• High risk 52% v Low risk 38% (p<0.002)
• Duration of symptoms: 40 ± 77 months (range: 1-696 months)

• Injuries:  
  Minor: 163 (50%)  
  Major: 20 (6%)
CAROTID SINUS MASSAGE

- Performed in 144 (44%)
- Abnormal in 6/144 (4.5%)
Table 4. Electrocardiographic findings.

<table>
<thead>
<tr>
<th>Findings</th>
<th>Number of patients</th>
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<tr>
<td>PR interval ≥200 msecs</td>
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<tr>
<td>Sinus bradycardia (heart rate ≤60 bpm)</td>
<td>27</td>
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<tr>
<td><strong>Intraventricular conduction defect</strong></td>
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<td>Left axis deviation (QRS axis ≥-30°)</td>
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<td>Right axis deviation (QRS axis ≥ +120°)</td>
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<tr>
<td>Left bundle branch block</td>
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<tr>
<td>Ventricular ectopics</td>
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<td>Atrial ectopics</td>
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<tr>
<td>Atrial fibrillation</td>
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<tr>
<td>left ventricular hypertrophy</td>
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<td>Incomplete right bundle branch block</td>
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<td>Abnormal Q waves (suggestive of old myocardial infarction)</td>
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<td>Right ventricular hypertrophy</td>
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<td>Non progression of R wave across precordial leads</td>
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<td>ST – T abnormalities</td>
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<td>Suspected Brugada Syndrome</td>
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<td>Left atrial enlargement</td>
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<td>QT prolonged (but &lt;500 msecs)</td>
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<td>Early transition of QRS in V3</td>
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<td>Sinus tachycardia</td>
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<td>Abnormal P wave morphology</td>
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<td>Paced rhythm</td>
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<tr>
<td>Low voltage complexes</td>
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</table>
ECHO RESULTS

- Number Echo’d: 202 (62%)
- Abnormal scan: 75 (37%)
- Abnormal ECG & Echo: 54 (72%)
- Normal ECG/Abnormal Echo: 21
- Diagnostic Echo: 2

1% of Echos reach “stand-alone” diagnosis
DECISION AT END OF RABTC VISIT

- Syncope: 137 (42%)
- Reflex Syncope: 117 (36%)
- CSH: 6 (2%)
- Cardiac syncope: 14 (4%)
- Falls: 14 (4%)
- Epilepsy: 9 (3%)
- Orthostatic hypotension: 6 (1%)
- Ectopic beats: 3 (1%)
- Alcohol related: 3 (1%)
- Cause undiagnosed: 150 (46%)

(50% of these had a abnormal ECG)
70% of UK Paced Patients First Present Syncope or Pre-syncope (CCAD)
FOLLOW-UP

- Re-hospitalisation for similar symptoms
- 21 patients (7% v 46% p<0.001)
- Death: 7/327 (2%)
Next Steps

- Establish pilot centres ✓
- Locate Assessment Tool on Secure Website ✓
- Enrol users ✓
- Make changes according to user-needs ✓+/−
- Develop “How to” Guide ✓+/−
- Establish Access Portal through STARS
- Provide accumulated, anonymised data to each site
- Combine all sites data for sharing
- Develop patient resources

Manchester
- Middlesborough ✓
- Bradford
- Hull
- Birmingham
- Wolverhampton
- West Herts ✓
- King’s London
- Portsmouth
- Liverpool
How To Organise Syncope Services

Step 1. Concentrate on T-LoC/Blackouts

Step 2. Engage your T-LoC Colleagues, Falls, Neurology, A&E

Step 3. Limit Your Ambitions

Step 4. Aim to Profile Risk and Triage To Appropriate Specialist or GP

Step 5. Collect your data ?CCAD

GPs are uncertain about syncope

A key move. Only the charming should attempt this

You cannot grow the workforce quickly

Don’t worry, most patients have syncope

We need persuasive arguments to stop misdiagnosis and raise pacing rates
The specialist nurse led RABTC at the Manchester Heart Centre can provide a quick triage for patients with blackout/s into the right care pathway.

> 50% of patients were diagnosed with simple tools i.e. a structured clinical assessment and an ECG.

Definitive treatment was given where needed.

Others were listed for the most appropriate investigations.

12% discharged back to primary care.

12% found suitable for pacemakers.

10% referred on for specialist opinion, mostly neurology.