Management of Atrial Fibrillation in Primary Care

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Background

• Fylde Coast Primary Care Guidelines
• Cardiac Network Primary Care Group
• Network Clinical Advisory Group
• Ratified by Clinical Governance of host organisation
• National Priority Project with NHS Improvement – Heart and Stroke
• Sign up from NHS North Lancashire (PBC)
• Six participating practices in Lancaster and Morecambe
Issues

• Diagnosis
  – Uncertainties with ECG diagnosis
  – Difficulties catching PAF
• Rate or rhythm control
• Who to anti-coagulate
  – Multiple guidelines
  – Worries re older patients
  – Role of echocardiography
  – Poorly defined pathways
Project aims

• **Primary study**
  • To promote opportunistic screening in primary care
  • Ensure accurate and timely confirmation of diagnosis
  • Encourage use of evidence based pathways

• **Secondary study**
  • Application of telemedicine
  • ECG interpretation
  • Use of ‘mini-clinic’ single lead ECG device
Participants

• PBC: 13 practices
• Six practices in Lancaster and Morecambe participated:
  – Smallest  7 161  3 partners
  – Largest   31 306  21 partners
  – Total nearly  92 000 patients

A partner from each practice acted as practice lead for the project
Practice visit

• Project Guide
• Guidelines
• Discussed practice prevalence – register validation – opportunistic screening
• Confirmation of diagnosis – training needs
• Local anticoagulation service
• Prescribing trends
The Algorithm

Consider rate control first for patients with persistent AF
- With HR >90 (>110 if recent onset of AF)
- >65 years
- with existing Coronary Artery Disease
- in whom anti-arrhythmic drugs are C/I
- unsuitable for cardioversion (1)

Prescribe Beta Blockers
*Atenolol 50-100mg OD/Bisoprolol 2.5-10mg daily
or rate limiting Calcium antagonist (dosage based upon heart rate/symptoms)
Verapamil 40-120 mg TDS or *Diltiazem (brand prescribed)

If further rate control needed add Digoxin
N.B. Verapamil combined with digoxin causes doubling of plasma levels. Caution when combining with diltiazem recommended

Failure of rate control?

*Depending on local prescribing recommendations

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RATE OR RHYTHM CONTROL

ANTICOAGULATE?

Yes (high risk)
- Previous ischaemic stroke/TIA or thromboembolic event
- Age >75
- Clinical evidence of valve disease or heart failure on impaired LV function on echo

Recommended (moderate risk)
- Age > 65 with no high risk factors
- Age <75 with hypertension diabetes or vascular disease

No (low risk)
- Age < 65 with no moderate or high risk factors

Consider rhythm control first for patients with persistent AF
- Who are symptomatic
- Who are younger
- presenting for the first time with lone AF (2)
- with secondary AF (3)
- with heart failure

Prescribe Warfarin
Target INR 2.5 (range 2-3)

If Warfarin C/I prescribe Aspirin

Refer to cardiologist (4)

If suspect recurrent paroxysmal AF

Prescribe Aspirin 75-300mg/day if no contraindications. Reassess

If treatment decision complex
Anticoagulation

NICE guideline but age > 75 high risk factor in its own right
Raising awareness

- Practices put manual pulse check in relevant templates
- Reminders on electronic BP machines
Audit

• Figures were collected at baseline and 12 months after introduction of the guideline
• Figures were collected by practice pharmacists and practice nurses using QoF data
• Collected
  – Patient numbers by age
  – Warfarin and aspirin
  – Rate and rhythm controlling treatments
## Results: overall prevalence

<table>
<thead>
<tr>
<th>Practice</th>
<th>Pre</th>
<th>Post</th>
<th>Relative change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice population</td>
<td>Total number AF register</td>
<td>Prevalence %</td>
<td>Practice population</td>
</tr>
<tr>
<td>A</td>
<td>10500</td>
<td>189</td>
<td>1.8</td>
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<tr>
<td>B</td>
<td>13372</td>
<td>217</td>
<td>1.6</td>
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<tr>
<td>C</td>
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<td>143</td>
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<td>D</td>
<td>20059</td>
<td>116</td>
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<td>31306</td>
<td>573</td>
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<tr>
<td>F</td>
<td>7161</td>
<td>135</td>
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<tr>
<td>Total</td>
<td>91616</td>
<td>1373</td>
<td>1.50</td>
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Already exceed national prevalence figures of 1.3%
D is the university practice with 12 000+ student population; this would have diluted overall prevalence; prevalence excluding students 1.76% pre, 1.84% post
Increase in patients on AF register 76
Absolute increase 0.08%, relative increase of 5.1%
## Results: prevalence > 75 years

<table>
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<th>Pre</th>
<th>Post</th>
<th>Relative change %</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Practice population &gt; 75 years</td>
<td>Number on AF register &gt; 75 years</td>
<td>Prevalence % &gt; 75 years</td>
</tr>
<tr>
<td>A</td>
<td>942</td>
<td>100</td>
<td>10.6</td>
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<tr>
<td>B</td>
<td>997</td>
<td>109</td>
<td>10.9</td>
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<tr>
<td>C</td>
<td>622</td>
<td>74</td>
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</tr>
<tr>
<td>D</td>
<td>576</td>
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<td>E</td>
<td>3043</td>
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<tr>
<td>F</td>
<td>725</td>
<td>84</td>
<td>11.6</td>
</tr>
<tr>
<td>Total</td>
<td>6905</td>
<td>761</td>
<td>11.02</td>
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</table>

Increase in patients on AF register over 75 of 75
Absolute increase 1.13% relative increase of 10.2%
Prophylaxis

- Aspirin use reduced slightly from 40.6 to 40.3%
- Warfarin usage increased from 41.2 to 47.5%
- Warfarin use in over 75s remained static at 45.9%
Rate and rhythm controlling drugs

• Digoxin usage dropped from 33.4 to 31.0%

• Beta-blocker usage and RLCCB usage both remained static at 41% and 14% respectively

• No significant change in rates of prescription of rhythm controlling drugs
Summary of findings

• Increase in prevalence especially in the over 75s
• Trend to increased warfarin use though no change in over 75s
• Trend to reduced use of digoxin
What it didn’t tell us

• How many patients were new presentations and how many were due to register validation/improved coding
• Although we had good levels of anti-coagulation, how many were appropriate
• For those not on warfarin, were there contraindications
• If there was any impact on referral to secondary care
GP perception of study

• Felt to have been very useful
• Most practices have followed on with further audits

‘We have done a lot on AF as a result of this project, 2x medical student Special Study Modules since Jan 09 have had AF focus…’

‘I’m sure that the majority of us are more switched on about current guidelines for treatment of AF and the patient’s are getting a better quality of service. In summary I think it has been very worthwhile. It did involve a lot of work…’
Telemedicine pilot

• Practices identified uncertainty over ECG interpretation as an issue
• Seen as an opportunity to pilot role of telemedicine for interpretation of ECGs in Primary care
  – Assess ease of use and clinical and impact of technology for ECG interpretation and single lead diagnostic monitoring
Project outline

• Assess ease of use and clinical and personal impact of technology for ECG Interpretation and single lead diagnostic monitoring
• Assess patient population for clinical requirements for ECG recordings
• Assess GP competency levels for ECG Interpretation to inform GP’s, secondary care and PCTs
• Share findings and support wider dissemination
Two parts:

- 12 lead ECG interpretation
- Use of single lead device
ECG Interpretation

• ECG taken
• Passed to GP
• Audit from completed
  – Indication for ECG: clinical symptoms (73%) long term conditions (21%) referral work up and screening (6%)
  – GP interpretation
• ECG faxed to Broomwell
• Result returned to practice
  – Review by GP and collation of results
• ECGs reviewed by local cardiologist
Results

• 4 out of the 6 practices participated
• 193 ECGs analysed
• Mismatch in 35 out of 193 = 18%
  – 25 different emphasis
    • ectopics, borderline axis deviation, partial RBBB, sinus brady
  – 10 felt to be significant = 5%
    • ST/T changes, long QT, 1° HB, LVH
• Changed outcome in 2/193
GP perceptions of the service

- Significant extra work (but this was a study)
- On the whole GPs felt this was a quality service but that it was unnecessary to send all ECGs
- In practice there are only a small number of ECGs where GPs feel they need a specialist opinion
- Felt this was best provided by local cardiologists (❓ protected time? Use of non face-to-face consultation tariff)
Single lead device

- worn as wristwatch
- stores up to 5 recordings - advised transmission after each one
- USB modem to download to PC and transmit to Broomwell
- report and recording received within 24 hours by email or fax
- GP is able to view the ECGs
Single lead diagnostic results

Only eight patients used the single lead monitoring device, audit data received for 5, included:

- 55 year old, exercise induced flutter, post stent, used out cycling to confirm this wasn’t occurring
- 60 year old female, history suggestive of ectopics, confirmed sinus rhythm
- 45 year old female palpitations? SVT. Confirmed SVT but unable to be precise re exact type
- 55 year old male, known PAF, used in surgery to confirm he was in AF at the time
Summary of single lead device findings

- The single lead diagnostic device was seen as a very useful tool in investigation of arrhythmias
- Under utilized but we only had it for a short period
- Patients liked it and found it easy to use
Next steps

• Rolling out guideline to all of our PBC practices
• Introduce CHADS2 as standard decision making tool
• Encourage practices to use GRASP tool
• As a result of using the single lead device and a recent audit of 24 hour ECGs, would be useful to review open access investigations in light of newer technologies
• Possible redesign of arrhythmia service
Atrial Fibrillation algorithm

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Consider rhythm control first for patients with persistent AF

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<thead>
<tr>
<th>Score</th>
<th>Stroke rate per 100 patient years</th>
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<tr>
<td>NNH</td>
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Any questions?