Retrospective audit demonstrating that national guidelines should be applied with confidence in the diagnosis of rapid access chest pain clinic (RACPC) patients in the UK: a single centre experience

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1. PURPOSE
- Patients presenting to Rapid Access Chest Pain Clinic (RACPC) often present with atypical symptoms, making diagnosis difficult based on clinical judgment alone.
- National Institute of Clinical Excellence (NICE) guideline recommends estimating the likelihood of having coronary artery disease (CAD) of patients and attribute first-line investigations according to the estimated risk (Table 1[1]).
- Current practice in RACPC is to be compared to national guidelines and against previous findings, and whether there was appropriate use of CT Coronary scoring and coronary angiography (CA) in the assessment and diagnosis of suspected angina.

2. METHOD

| Inclusion criteria: All patients referred to RACPC in SRH from 1 Jan to 31 Dec 2011.  
| Data Collection: SRH RACPC Database (store of patient information, collected using standardised proforma completed by cardiology clinician during consultations). N = 848 (51% male, 49% female).
| Design: Patients were divided into groups according to their modified Duke Scores using online calculator[2].
| Analysis: Statistical Package for Social Sciences Standards:
- Refer all patients with CAD likelihood of 10 to 29% for CT calcium scoring (CS);
- Refer all patients with CAD likelihood of 30 to 60% for Myocardial Perfusion Scan (MPS);
- Refer all patients with CAD likelihood of 61 to 90% for coronary angiography (CA).

3. RESULTS

**Table 1 Percentage of people estimated to have coronary artery disease according to typicality of symptoms, age, sex and risk factors**

<table>
<thead>
<tr>
<th>Age (year)</th>
<th>Non-atypical chest pain</th>
<th>Atypical chest pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td>35</td>
<td>35</td>
<td>52</td>
</tr>
<tr>
<td>45</td>
<td>85</td>
<td>92</td>
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<td>55</td>
<td>137</td>
<td>147</td>
</tr>
<tr>
<td>65</td>
<td>192</td>
<td>209</td>
</tr>
</tbody>
</table>

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**Figure 1** Attribution of patients (n=848) to NICE-specific investigations according to estimated CAD likelihood from modified Duke scores

**Figure 2** Comparison of performance from previous (top) and current audits (bottom)

**Figure 3** Outcomes of appropriately performed NICE-specific CA (n=98) confirming NICE guideline statistics

**Figure 4** Outcomes of these 14 patients showing the majority received unnecessary CA

Significant disparities existed for 16 low-risk patients who received CA instead of CT CS.

4. CONCLUSION

- Majority of patients presented had investigations but only a minority received tests according to NICE recommendations. Clinical judgments are less reliable compared to Duke score on indicating first-line investigations.
- CT calcium scoring is a valuable diagnostic tool in excluding significant Coronary artery disease in low-risk patients. Within appropriately performed coronary angiographies, disease rate matched that stated in NICE guidelines.
- Results suggest the implemented changes have had positive impacts on performance. However standards were unmet for the same core reasons as per previous audit findings, i.e. no standard calculator on Trust IT system and no CT Calcium scoring readily accessible within the Trust.

The following should be advised before re-audit:
- Introducing online calculator accessible on Trust system to standardise estimation of CAD likelihood for patients;
- Update RACPC proforma and database to make estimation of CAD likelihood essential;
- Access for CT Calcium scoring within the Trust;

5. DECLARATION OF INTEREST

None

REFERENCE: