BHIVA national clinical audit of ART

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A rolling annual programme

Today’s presentation:
- 2001 audit results
- 2002 audit plans

Aims:
- Evaluate usefulness of BHIVA guidelines
- Yield national aggregate data on treatment patterns
- Enable individual units to compare their data with national aggregates in confidence
2001 audit results

Survey of centres including availability of drugs and investigations

Case review of patients:

- Adherence to guidelines on when to start treatment
- Adherence to guidelines on what treatment to use
- Outcomes of therapy
- Survey of use of resistance testing
Participating centres by size

- a. <50
- b. 50-100
- c. 101-200
- d. 201-500
- e. 501+

London NHS Region
Outside London NHS region

Centre size (number of HIV patients)
Participating centres by size (number of HIV patients)

Top: Outside London

Bottom: London
Audited patients by size of participating centre

- Not known/not stated
- <50
- 50-100
- 101-200
- 201-500
- 501+
Impact of BHIVA guidelines

138 out of 147 (93.9%) of respondents said they had seen and read the guidelines.

109 (74.1%) said the guidelines had influenced care at their centre.
Availability of drugs and investigations

141 centres reported no prescribing restrictions.
- 3 reported problems with Trizivir®.
- 2 reported problems with Kaletra®/boosted PIs.
- 1 reported problems with tenofovir specifically for children.
Specialised viral load assays

Ultrasensitive viral load testing:
- 133 (90.5%) no access problems
- 1 (0.7%) “Use, but less than clinically desirable”
- 11 (7.5%) “No/limited access”

Viral load tests able to detect specific sub-types:
- 94 (63.9%) centres say they have access
- 23 (15.6%) say they do not have access
- 27 (18.4%) do not know if they have access
Resistance testing

- 121 (82.3%) use as clinically desirable
- 14 (9.5%) “Use, but less than clinically desirable”
- 3 (2.0%) “Have access, but rarely consider clinically desirable”
- 5 (3.4%) “No/limited access”
Audit sample:
72.6% male, 27.1% female

SOPHID adults:
77% male, 23% female
Audit sample:
68% white, 24.5% black-African

SOPHID:
59.8% white, 22.9% black-African

Audit sample:
43.8% heterosexual, 45.1% homo/bisexual, 3.3% IDU

SOPHID (excluding vertical transmission from base):
32.4% heterosexual, 54.5% homo/bisexual, 4.2% IDU
Current clinical and laboratory status

Current CD4

- 26%: 0-50
- 18%: 51-200
- 23%: 201-350
- 27%: 351-500
- 2%: 500+
- 4%: NK/unavailable/missing
Latest VL

- 44% below 50
- 15% below 500
- 15% 500-10,000
- 15% 10,000-30,000
- 4% 30,000+
- 15% NK/unavailable/missing
Clinical status (worst reported)

- 31%: a. No symptoms
- 30%: b. Minor symptoms
- 2%: c. Severe symptoms/AIDS
- 37%: d. NK/missing
<table>
<thead>
<tr>
<th>Current treatment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 drug</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
</tr>
<tr>
<td>2 drugs</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>1.8%</td>
</tr>
<tr>
<td>3+ drugs</td>
<td>1479</td>
</tr>
<tr>
<td></td>
<td>72.4%</td>
</tr>
<tr>
<td>On ART, details unknown</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>0.1%</td>
</tr>
<tr>
<td>None</td>
<td>513</td>
</tr>
<tr>
<td></td>
<td>25.1%</td>
</tr>
<tr>
<td>Missing/NK</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>0.6%</td>
</tr>
<tr>
<td><strong>Total Number</strong></td>
<td>2044</td>
</tr>
<tr>
<td><strong>Total Percent</strong></td>
<td>100.0%</td>
</tr>
</tbody>
</table>
When to start treatment

Standard from guidelines:
- At CD4 between 200 and 350
- Or with severe symptoms/AIDS (any symptoms in 2000 guidelines)
- Or possibly with VL above 30,000 (2000 guidelines).

Assess from audit of:
- Patients starting treatment during period covered by guidelines
- Patients not on treatment
- Patients on treatment
**Treatment starters**

CD4 just before starting treatment in patients who started for the first time in 2000 (top) and 2001 (bottom).
### Late starters 2000-1

<table>
<thead>
<tr>
<th>CD4 before starting ART</th>
<th>CD4 at diagnosis of HIV</th>
<th>0-50</th>
<th>51-200</th>
<th>201-350</th>
<th>351-500</th>
<th>500+</th>
<th>Missing/NK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-50</td>
<td><strong>131</strong></td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>146</td>
</tr>
<tr>
<td></td>
<td><strong>39.7%</strong></td>
<td>0.6%</td>
<td>0.9%</td>
<td>0.3%</td>
<td>0.3%</td>
<td>2.4%</td>
<td>44.2%</td>
<td></td>
</tr>
<tr>
<td>51-200</td>
<td><strong>2</strong></td>
<td>141</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>11</td>
<td>184</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>42.7%</strong></td>
<td>4.5%</td>
<td>3.0%</td>
<td>1.5%</td>
<td>3.3%</td>
<td></td>
<td>55.8%</td>
<td></td>
</tr>
<tr>
<td>Total Number</td>
<td>133</td>
<td>143</td>
<td>18</td>
<td>11</td>
<td>6</td>
<td>19</td>
<td>330</td>
<td></td>
</tr>
<tr>
<td>Total Per cent</td>
<td><strong>40.3%</strong></td>
<td><strong>43.3%</strong></td>
<td><strong>5.5%</strong></td>
<td><strong>3.3%</strong></td>
<td><strong>1.8%</strong></td>
<td><strong>5.8%</strong></td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>
Patients not on treatment

Of 513 patients not on treatment:
- 77 (15%) had latest CD4 under 200, with or without symptoms
- A further 9 (1.8%) had a history of severe symptoms.

Of these 86 patients, 26 (including 11 newly diagnosed) are described as considering or being about to (re)start ART, 45 have some reason given for not being on treatment, and 15 are unexplained.
Patients on treatment

Of 1516 patients on ART, 54 (3.6%) were not reported as ever having had symptoms or CD4 under 350.

12 of the 54 first started treatment in 2000:
- 6 had pre-treatment VL >30,000
- 1 had pre-treatment VL 10-30,000
- Data was missing for the remaining 5

5 of the 54 first started treatment in 2001:
- 3 were seroconvertors
- 2 had pre-treatment VL >30,000.
Conclusion: starting treatment

There is a major departure from the guidelines in that most patients start treatment late. However, this is predominantly due to late diagnosis.
What treatment to offer

Standard from guidelines:

- Patients starting treatment should normally do so on 3 or more drugs
- Patients who are currently on fewer than 3 drugs may continue this therapy provided VL is stable and CD4 is clinically safe.
Patients on fewer than 3 drugs

Of 1516 patients on ART (other than for prevention of vertical transmission):

◆ 1 was on monotherapy – started at unknown date, current CD4 200-350, VL < 50, no symptoms, has declined switch to triple therapy.

◆ 36 patients were on dual therapy, of whom:
  ★ 8 had first started therapy in 2000-1. 6 of these started on 2 drugs and 2 started on 3 drugs and switched to 2.
  ★ 15 have latest CD4 <200 and/or history of severe symptoms/AIDS, including 6 with latest VL <50.
Patients on 3 or more drugs

1479 patients were on combinations of 3 or more ART drugs.

- 25%: 2NAs + single/boosted PI
- 25%: 2NAs + NNRTI
- 12%: 3NAs
- 8%: Other 3+ drug combination
- 55%: Other categories
Conclusions: what treatment to offer

Of patients on treatment, 97.5% are receiving 3 or more drugs.

Most centres are making substantial use of NNRTI containing combinations.

A small number of centres started naïve patients on two drug combinations during 2000 and 2001.
Latest VL by date of first starting ART, in patients taking 3 or more drugs

Before 1996

1996-99

2000

2001

Unknown/inconsistent

Total

- Missing/NK
- 30,000+
- 10,000-30,000
- 500-10,000
- below 500
- below 50
### VL outcomes of current therapy for patients on 3 or more drugs

<table>
<thead>
<tr>
<th>Latest VL</th>
<th>VL just before starting current ART</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>below 50</td>
<td>below 500</td>
</tr>
<tr>
<td>below 50</td>
<td>219</td>
<td>63</td>
</tr>
<tr>
<td>below 500</td>
<td>19</td>
<td>35</td>
</tr>
<tr>
<td>500-10,000</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>10,000-30,000</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>30,000+</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Missing/NK</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>243</td>
<td>107</td>
</tr>
</tbody>
</table>
## CD4 outcomes of current therapy for patients on 3 or more drugs

<table>
<thead>
<tr>
<th>Number of patients</th>
<th>CD4 just before starting current ART</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latest CD4</td>
<td>0-50</td>
<td>51-200</td>
</tr>
<tr>
<td>a. 0-50</td>
<td>40</td>
<td>3</td>
</tr>
<tr>
<td>b. 51-200</td>
<td>112</td>
<td>155</td>
</tr>
<tr>
<td>c. 201-350</td>
<td>60</td>
<td>149</td>
</tr>
<tr>
<td>d. 351-500</td>
<td>16</td>
<td>94</td>
</tr>
<tr>
<td>e. 500+</td>
<td>7</td>
<td>46</td>
</tr>
<tr>
<td>Missing/NK</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>237</td>
<td>453</td>
</tr>
</tbody>
</table>
Clinical outcomes of current therapy for patients on 3 or more drugs

<table>
<thead>
<tr>
<th>Latest symptoms</th>
<th>No symptoms</th>
<th>Minor symptoms</th>
<th>Severe symptoms/AIDS</th>
<th>Missing/NK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No symptoms</td>
<td>365</td>
<td>238</td>
<td>80</td>
<td>58</td>
<td>741</td>
</tr>
<tr>
<td>Minor symptoms</td>
<td>9</td>
<td>333</td>
<td>54</td>
<td>39</td>
<td>435</td>
</tr>
<tr>
<td>Severe symptoms/AIDS</td>
<td>1</td>
<td>5</td>
<td>242</td>
<td>20</td>
<td>268</td>
</tr>
<tr>
<td>Missing/NK</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>24</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>377</td>
<td>580</td>
<td>381</td>
<td>141</td>
<td>1479</td>
</tr>
</tbody>
</table>

NB: In theory, should be no reporting of symptom improvement
Use of resistance testing

395 (19.3) of patients had been tested for resistance, which was found in 255 (12.5%).
Patients with a resistance test result

- 31% 1 class of drugs
- 33% 2 classes of drugs
- 20% 3 classes of drugs
- 16% Test showed no resistance
Conclusions from the 2001 audit

The audit has shown broad support for and compliance with BHIVA clinical guidelines, and good patient outcomes.

More than a third of centres lack access or are unsure if they have access to VL tests able to detect HIV sub-types.

A significant minority of centres report limited access to resistance testing.

The only major departure from the guidelines is that most patients starting treatment do so at CD4 less than 200. This largely reflects late diagnosis.

Most centres are making extensive use of NNRTI combinations.

A small number of centres started naïve patients on two drug combinations during 2000 and 2001.
Evaluation of the 2001 Audit

- About right
- Too detailed/difficult
- Too simple/superficial
- Don't know
- Missing
Future plans and issues

Dissemination of confidential individual centre reports from 2001 audit

2002 audit to cover:
  - Patients starting treatment from naïve – survey of clinic policy plus case note review
  - Survey of arrangements for managing HIV in pregnancy

Establishment of BHIVA Clinical Audit Faculty