Outcome of B3 lesions using the Leeds Management pathway

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B3 lesions

• Important
• Broad spectrum of lesions of variable significance
• 2 broad categories
  – B3 lesions with no atypia
  – B3 lesions with atypia
• Requires further sampling
  – Traditionally – surgically
  – Advances in biopsy technique
    • Large volume biopsy – 7G/8G
    • “BLES” Intact system
• Image guided large volume biopsy should be considered
  before surgical biopsy in management of B3 lesions
Core samples

<table>
<thead>
<tr>
<th>14 G</th>
<th>14 G</th>
<th>11 G</th>
<th>8 G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Needle</td>
<td>Mammotome</td>
<td>Mammotome</td>
<td>Mammotome</td>
</tr>
<tr>
<td>12-17mg</td>
<td>35-40mg</td>
<td>83-116mg</td>
<td>246-310mg</td>
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</tbody>
</table>

1st line VAB

2nd line VAB
B3 lesions

• Important
• Broad spectrum of lesions of variable significance
• 2 broad categories
  – B3 lesions with no atypia
  – B3 lesions with atypia

• Requires further sampling
  – Traditionally – surgically
  – Advances in biopsy technique
    • Large volume biopsy – 7G/8G
    • “BLES” Intact system

• Image guided large volume biopsy should be considered before surgical biopsy in management of B3 lesions
National survey to all breast screening units in England

- 46 breast screening units responded (58% response rate)
- Filled out by:
  - Radiologist – 40
  - Clinician – 4
  - Radiographer – 2
- 28 units perform First line vacuum assisted biopsy (VAB)
- 37 units performed Second line VAB
B3 lesions with no atypia – radial scar/papilloma with no atypia

• If conventional 14G core biopsy shows B3 lesion with no atypia
  – 34 units responded
  – 74% will offer second line VAB
  – 26% will offer Surgical Diagnostic Biopsy

• If 1st line VAB shows B3 lesion with no atypia
  – 27 units
  – 41% will offer second line VAB
  – 44% will offer Surgical biopsy
  – 15% will discharge due to adequate sampling
**B3 lesion with atypia on 14G core biopsy**

<table>
<thead>
<tr>
<th></th>
<th>2nd line VAB</th>
<th>Surgical biopsy</th>
<th>Discharge</th>
<th>EC</th>
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<tbody>
<tr>
<td>FEA</td>
<td>66</td>
<td>34</td>
<td>0</td>
<td>0</td>
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<tr>
<td>AIDP</td>
<td>53</td>
<td>47</td>
<td>0</td>
<td>0</td>
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<tr>
<td>AIDP + FEA</td>
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<td>0</td>
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<tr>
<td>ALH</td>
<td>57</td>
<td>34</td>
<td>3</td>
<td>6</td>
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<tr>
<td>LCIS</td>
<td>51</td>
<td>40</td>
<td>0</td>
<td>9</td>
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<tr>
<td>Radial scar + atypia</td>
<td>37</td>
<td>63</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Papilloma + atypia</td>
<td>40</td>
<td>60</td>
<td>0</td>
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</table>
B3 lesion with atypia on VAB

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<thead>
<tr>
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<th>Discharge</th>
<th>EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEA</td>
<td>39</td>
<td>50</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>AIDP</td>
<td>28</td>
<td>69</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>AIDP + FEA</td>
<td>28</td>
<td>69</td>
<td>3</td>
<td>0</td>
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<td>46</td>
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<td>4</td>
<td>4</td>
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<tr>
<td>LCIS</td>
<td>39</td>
<td>46</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Radial scar + atypia</td>
<td>24</td>
<td>76</td>
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<td>0</td>
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<tr>
<td>Papilloma + atypia</td>
<td>21</td>
<td>79</td>
<td>0</td>
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</tbody>
</table>
Summary of survey

• Varied practice across England
• Units are utilising VAB 2nd line
• High number referred for surgery rather than further biopsy
Leeds pathway for B3 lesions with no atypia

B3 with no atypia on needle core biopsy e.g. radial scar, papilloma

Multidisciplinary discussion

Diagnostic Surgical Bx

VAB not suitable
- Technical reasons
- Pathological reasons
- Fibroepithelial lesions
- Patient choice
- Radiology - size

VAB 2nd line

B2 benign
B3 no atypia
B3 with atypia
B4 suspicious
B5a in situ carcinoma
B5b invasive carcinoma

Multidisciplinary discussion

Routine screening
Diagnostic surgical biopsy
Therapeutic surgery
Leeds pathway for B3 lesions with no atypia

B3 with no atypia  
\( n = 87 \)

Multidisciplinary discussion

Diagnostic Surgical Bx  
\( n = 29 \) (1)

VAB not suitable
- Technical reasons
- Pathological reasons
- Fibroepithelial lesions
- Patient choice
- Radiology - size

VAB 2nd line  \( n = 58 \)

B2 benign
B3 no atypia
B3 with atypia
B4 suspicious
B5a insitu carcinoma
B5b invasive carcinoma

Multidisciplinary discussion

Routine screening  
\( n = 50 \)

Diagnostic surgical biopsy  
\( n = 7 \) (1)

Therapeutic surgery  
\( n = 1 \)
Leeds pathway for B3 lesion with atypia

B3 with Atypia on needle core biopsy

Multidisciplinary discussion

Diagnostic Surgical Bx
- VAB not suitable
  - Technical reasons
  - Pathological reasons
  - Radial scar with atypia
  - Papilloma with atypia
  - Patient choice
  - Radiology - size

VAB 2nd line

B2 benign

B3 with atypia

B4 suspicious
- B5a insitu carcinoma
- B5b invasive carcinoma

Multidisciplinary discussion

Routine screening

5 year annual mammographic follow up

Diagnostic surgical biopsy

Therapeutic surgery
Leeds pathway for B3 lesion with atypia

B3 with Atypia  
\[ n = 140 \]

- Multidisciplinary discussion

- Diagnostic Surgical Bx  
  \[ n = 21 \ (11) \]

  - VAB not suitable
  - Technical reasons
  - Pathological reasons
  - Radial scar with atypia
  - Papilloma with atypia
  - Patient choice
  - Radiology - size

- VAB 2nd line  
  \[ n = 119 \]

  - B2 benign
  - B3 with atypia
  - B4 suspicious
  - B5a insitu carcinoma  
  - B5b invasive carcinoma

  - Multidisciplinary discussion

  - Routine screening  
    \[ n = 18 \]
  
  - 5 year annual mammographic follow up  
    \[ n = 61 \]
  
  - Diagnostic surgical biopsy  
    \[ n = 16 \ (3) \]
  
  - Therapeutic surgery  
    \[ n = 24 \]
Follow up

- 227 cases – 14 recalled
  - 8 contra lateral breast
    - 1 LCIS
    - 1 B5b - new
    - 6 benign on imaging
  - 6 ipsilateral breast
    - 1 LCIS
    - 5 benign on imaging
Success of pathway

• Radiologist
  – Ensuring adequate sampling
  – Representative sampling

• Pathologist
  – Determining degree of atypia
  – Assessing level of concern regarding malignancy

• MDT discussion
  – Subsequent management plan
    • Diagnostic surgery
    • 5 year FU – ? is this really necessary
    • Discharge – breast screening
NBSS Data

• 2,379 surgical diagnostic biopsies performed in 2011/2012
  – 31% malignant
    • 52% of invasive cancers and 67% of non invasive cancers were B3/C3 on core biopsy
  – 69% benign
  – Number related to B3 lesions and type – unclear
Benign open biopsies

Leeds prevalent open biopsy rate 0.9

UK average: 1.74
Minimum std: 1.5
Target: 1.0
Guidelines for B3

- Initial meeting – surgeons, pathologists and radiologists
- Issues for radiology
  - Take into account 14G and 1st Line VAB
  - Recommend second line VAB – facilities where not available will either have to refer to units that have access to VAB or encourage trust to invest in the equipment
  - Develop guidelines how to manage calcifications less that or greater than 30mm
  - Define representative sampling
NBSS Data collection

• Pathology fields need updating – work in progress
• Mandatory field for surgical diagnostic biopsy
• Identify the type of lesion that prompts surgical biopsy
• Link in with Sloane Data
Summary

• B3 screening guidelines are being developed to standardise practice across the UK

• Image guide biopsy should always be the next step where possible

• Adopting similar pathway to Leeds would
  – reduce the number of surgical benign biopsies
  – improve preoperative diagnosis
  – reduce incidence of over diagnosis

• NBSS to audit practice