Revision of the diagnosed cases of atypical ductal hyperplasia in our hospital. Comparison of the histology of the percutaneous biopsy with the surgical biopsy

Poster No.: C-0126
Congress: ECR 2013
Type: Scientific Exhibit
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Keywords: Biopsy, Mammography, Percutaneous, Breast, Vacuum assisted biopsy
DOI: 10.1594/ecr2013/C-0126
Purpose

Atypical hyperplasias have been defined as proliferative lesions of the breast that present some, but not all, of the characteristics of in situ carcinoma, and are classified as ductal (ADH) and lobulillary (ALH).

Women whose biopsy shows atypical hyperplasia present a substantially higher risk to develop breast cancer, about 3.5 to 5 times higher than the reference population.

Since the use of mammography as a detection test, atypical hyperplasias are diagnosed more often than in the past. Atypical hyperplasia has been identified in 12 to 17% of the biopsies performed after microcalcifications were detected in the mammography.

The objectives of this study have been:

1. To evaluate the frequency of ADH in our hospital after the implementation of the vacuum assisted biopsy (VAB) in July 2007.
2. To calculate the percentage of the underestimation of the carcinoma diagnose in this group of patients, and its correlation with the biopsy technique used.
3. To assess the cases with an ADH diagnose in the surgical biopsy, with no atypical histology in the percutaneous biopsy.

Methods and Materials

We have retrospectively reviewed all the cases that were diagnosed with ADH in our hospital between July 2007 and August 2011. We have excluded the cases with no surgical biopsy, as well as patients that presented atypia with a different origin. 52 patients have therefore been included, all of them female, aged 29 to 77.

We have classified the patients in 3 groups, depending on the ADH diagnostics method:

- GROUP A: percutaneous biopsy (35 patients).
- GROUP B: incisional surgical biopsy (3 patients).
- GROUP C: surgical removal of benign lesions with no ADH histological diagnose in the percutaneous biopsy (14 patients). Fig. 1 on page

The vacuum-assisted biopsies were performed using a prone table and an 11-gauge directional vacuum-assisted probe. In the rest of the biopsies, 14-gauge core needles were used.
We have studied the mammographic and ultrasound findings, the biopsy technique and the histopathologic findings in each group.

Images for this section:

DIAGNOSIS OF ADH

Patients: 52 women
Age: 29 - 77 years old

CLASSIFICATION:

- GROUP A: percutaneous biopsy (35 patients)
- GROUP B: incisional surgical biopsy (3 patients)
- GROUP C: surgical remove of lesions with no ADH in the percutaneous biopsy (14 patients)

Fig. 1: Methods and materials
Results

GROUP A

Percutaneous biopsies were performed to 35 patients: 19 vacuum-assisted biopsies, 14 echography guided 14-gauge core needle biopsies and 2 palpation-guided 14-gauge core needle biopsies. Fig. 2 on page

ADH diagnose was confirmed for 20 patients after surgery: Fig. 3 on page

- For 11 of these cases, the percutaneous biopsy was VAB: 10 microcalcifications (3 BI-RADS 4A, 6 BI-RADS 4B and 1 BI-RADS 4C) and one arquitectural distortion (BI-RADS 5).
- In eight cases ultrasound guided 14-gauge core was used: 6 masses (3 BI-RADS 4A, 1 BI-RADS 4B, 1 BI-RADS 4C and 1 BI-RADS 5), 1 hypoecoic area (BI-RADS 4B) and 1 area of microcysts. The pathological anatomy report for cathegories 4C and 5 was complex sclerosing lesion with atypia.
- One of the patients was diagnosed with a palpation-guided 14-gauge core biopsy, since she had a palpable mass.

Atypia was no found in 8 of the cases in the surgical biopsies. 5 of them were biopsied via VAB due to the fact that they were microcalcifications (4 BI-RADS 4B and 1 BI-RADS 4C) and 3 were biopsied via ultrasound guided 14-gauge core biopsy, since they were masses (1 BI-RADS 4A and 2 BI-RADS 4B). Fig. 4 on page

The histological diagnose of seven of the patients (20%) when using the surgical biopsy was ductal carcinoma in situ. Fig. 5 on page

- The percutaneous biopsy was VAB for 3 of the cases, all of which were microcalcifications, 2 BI-RADS 4B and 1 BI-RADS 5. In the latter case a mastectomy was performed for it being an extensive lesion (140 mm).
- For 3 of the cases, the initial ADH diagnose was performed via ultrasound guided 14-gauge core biopsy: 1 lesion intraductal with microcalcifications (papilloma with DCIS), 1 hypoecogenic area with a mass in the mammography and 1 mass with normal mammography.
- For 1 of the cases, the ADH diagnose was performed via palpation-guided 14-gauge core biopsy. At ultrasound, it was consistent with an area of microcysts.

The underestimation percentage was 15,8% for VAB and 21,4% for the ultrasound guided 14-gauge core biopsy.

GROUP B
The ADH diagnose was performed using surgical biopsy for 3 of the patients.

Two of these patients showed microcalcifications in the mammographies (BI-RADS 4B). Breast size made VAB unfeasible.

The third case was that of a patient that suffered from acous telorrea, normal mammography and an intraductal mass that could be a papilloma in the ultrasound. Fig. 6 on page

GROUP C

For 14 of the patients the ADH diagnose was a finding during surgery. They were all patients with a percutaneous biopsy and a diagnosis of benign lesions that required surgical removal. Fig. 7 on page

The histological presurgical diagnose was:

- Radial scar and/or complex sclerosing lesion: 4 patients.
- Fibrocystic changes: 3
- Intraductal Papilloma: 2
- Papillomatosis: 1
- Flat epithelial hyperplasia: 1
- Papillar hyperplasia: 1
- Fibroadenoma: 1
- Normal breast: 1

The description of mammography, ultrasound, BI-RADS category and percutaneous biopsy technique findings, and comments are found in Figures 8 and 9. Fig. 8 on page, Fig. 9 on page

Images for this section:
GROUP A

Diagnosis of ADH by means of percutaneous biopsy
(35 patients)

- ADH: 20 patients
- No ADH: 8 patients
- DCIS: 7 patients

Fig. 2: Results. Group A: diagnosis of ADH by means of percutaneous biopsy.
Fig. 3: Results. Group A: ADH confirmation by means of surgery.
Fig. 4: Results. Group A: absence of atypia in the surgical biopsy.
Fig. 5: Results. Group A: diagnosis of DCIS in the surgical biopsy.
GROUP B
Diagnosis of ADH by means of incisional biopsy (3 patients)

- 2 patients with microcalcifications (BI-RADS 4B)
  VAB was unfeasible by the breast size

- 1 patient with aqueous telorrea and an intraductal mass suspicious of papilloma

Fig. 6: Results. Group B: diagnosis of ADH by means of incisional biopsy.
GROUP C

Diagnosis of ADH by means of surgical excision of lesions without ADH in the percutaneous biopsy
(14 patients)

Fig. 7: Results. Group C: diagnosis of ADH by means of surgical biopsy of lesions without ADH in the percutaneous biopsy.
### Group C

<table>
<thead>
<tr>
<th>Preoperative Diagnosis</th>
<th>Mammography</th>
<th>US</th>
<th>BI-RADS</th>
<th>Biopsy Method</th>
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<tr>
<td>Radial scar / complex sclerosing lesion</td>
<td>Architectural distortion</td>
<td>Solid mass</td>
<td>4B</td>
<td>US-guided CNB</td>
</tr>
<tr>
<td></td>
<td>Architectural distortion</td>
<td>Solid mass</td>
<td>4C</td>
<td>US-guided CNB</td>
</tr>
<tr>
<td></td>
<td>Architectural distortion</td>
<td>Hypoechoic area</td>
<td>4C</td>
<td>US-guided CNB</td>
</tr>
<tr>
<td></td>
<td>Architectural distortion</td>
<td>Solid mass</td>
<td>4C</td>
<td>US-guided CNB and VAB</td>
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<tr>
<td>Fibrocystic changes</td>
<td>Architectural distortion</td>
<td>Hypoechoic area</td>
<td>4B</td>
<td>US-guided CNB (a)</td>
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<td>Architectural distortion + microcalcifications</td>
<td>Hypoechoic area</td>
<td>5</td>
<td>US-guided CNB (b)</td>
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<tr>
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<td>Architectural distortion + microcalcifications</td>
<td>Microcysts</td>
<td>4B</td>
<td>US-guided CNB (c)</td>
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<td>US-guided CNB</td>
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<tr>
<td></td>
<td>Focal asymmetry</td>
<td>Intraductal mass</td>
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<tr>
<td>Papillomatosis</td>
<td>Normal</td>
<td>Hypoechoic area</td>
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<td>US-guided CNB</td>
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<td>Flat epithelial hyperplasia</td>
<td>Microcalcifications</td>
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<td>4A</td>
<td>VAB</td>
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<td>Papillary hyperplasia</td>
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<td>3</td>
<td>Freehand CNB (d)</td>
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<tr>
<td>Fibroadenoma</td>
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<td>Solid mass</td>
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<td>Freehand CNB (e)</td>
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<tr>
<td>Normal breast</td>
<td>Architectural distortion</td>
<td>Solid mass</td>
<td>4C</td>
<td>US-guided CNB (f)</td>
</tr>
</tbody>
</table>

**Fig. 8:** Results. Group C: diagnosis of ADH by means of surgical biopsy of lesions without ADH in the percutaneous biopsy. Description of cases.
GROUP C

Comments table number 8:

a. Previous surgery with the diagnosis of radial scar at the same location; suspected new radial scar; MRI-guided biopsy: CSL without atypias; surgical excision: CSL + papillomatosis + ADH.
b. CNB representative; VAB unfeasible by the breast size; suspected of CSL; surgical excision: CSL + ADH.
c. Palpable mass; multidisciplinary committee decide on surical excision; surgical excision: CSL + ADH
d. FNA: cellular atypia; CNB: papillar hyperplasia; surgical excision: intraductal papillomatosis + ADH; 3 years later mass in the surgical scar with histology of intraductal papillar carcinoma in the context of intraductal papillomatosis with ADH
e. Surgery excision because of increased size: ADH + fibroadenosis
f. CNB representative; MRI suspicious; surgical excision because of mismatch of radiological findings and pathology

Fig. 9: Results. Group C: comments table number 8.
Conclusion

The percentage of CID underestimation for patients that had a HDA histologic diagnose is independent from the method used for the biopsy. A surgical removal must be performed in all cases.

Surgical biopsy must be performed in all suspicious radiological images.

References


Personal Information