

## Symptomatic and incidental mammary duct ectasia

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### Summary

The histology obtained from 1256 female patients undergoing breast surgery was reviewed. Mammary duct ectasia was noted in 51 (4.2%) patients who had associated symptoms and in 103 (8.1%) patients where duct ectasia was recognized as an incidental finding. The syndrome is defined by primary (nipple change or sepsis) and secondary (pain and lump) symptoms. Formal duct excision gives good results for symptomatic duct ectasia.

It is postulated that many women have nonsymptomatic mammary duct ectasia. Secondary infection gives rise to nipple change, lump and pain. In the severe form abscess and fistula formation occurs which necessitates repeated surgical treatment, and rarely mastectomy.

### Introduction

Mammary duct ectasia was described by Haagensen<sup>1</sup> as a benign condition with the histological changes of major duct dilatation associated with periductal fibrosis or chronic inflammatory infiltration. The synonyms sometimes employed are 'plasma cell mastitis' and 'periductal mastitis'.

The corresponding clinical syndrome is characterized by nipple discharge and nipple retraction<sup>2</sup>, noncyclical mastalgia<sup>3</sup>, subareolar breast lumps, and by localized or fistulating sepsis<sup>4,5</sup>. Although some patients with duct ectasia develop infective complications which can be extremely troublesome, not all patients with changes of duct ectasia become symptomatic.

A degree of ductal dilatation is often recognized in breast biopsies performed for other benign conditions. Accordingly, 'occult' or nonsymptomatic duct ectasia occurs. The present study was undertaken to determine the frequency of 'incidental' and 'symptomatic' duct ectasia and to compare the features of each.

### Methods

The histology of all patients undergoing breast surgery during a four-year period on one surgical unit was reviewed. The specific histological feature of major duct dilatation was sought as well as evidence of periductal fibrosis and inflammatory changes.

A total of 1256 patients were studied. Of 154 (12%) with unequivocal features of duct ectasia, 51 had the clinical syndrome and in 103 (8%) the duct ectasia was noted as an incidental finding. Patients with the 'syndrome' were compared with those having 'incidental' duct ectasia, particular note being made of breast symptoms, nipple discharge and sepsis. The changes on mammography were also noted, when performed (in 67% of syndrome patients and 56% of

incidental patients). Finally, the efficacy of surgical excision in preventing recurrent symptoms was carefully assessed.

### Results

Of the 1256 patients, 51 had the clinical syndrome of duct ectasia and in 103 it was noted to be an incidental finding. The age of patients in the syndrome group (median 47, range 19–78) was similar to that in the incidental group (median 46, range 18–82).

#### *Symptoms* (Table 1)

Pain was a feature in two-thirds of the syndrome group, this being cyclical in 21 and noncyclical in 13. A juxta-areolar lump was noted in 23 (45%) of the syndrome patients and in 33 (32%) of the incidental group. Nipple change was present in 75% of the syndrome group but only 14% where the ectasia was incidental. Discharge was more common than inversion. Although the discharge was usually clear or creamy, in 6 cases bloody discharge was noted (papillomatosis was found in only one case).

Syndromal duct ectasia was bilateral in 29% of patients. Evidence of sepsis (either previous abscess of fistula formation) was noted in 10 patients in the syndrome group (20%) but in only one patient in the incidental group.

#### *Investigation*

Aspiration cytology confirmed the benign nature of primary duct ectasia in 34 patients but showed

Table 1. *Predominant symptoms in patients with duct ectasia*

	Syndrome (n = 51)	Incidental (n = 103)
<b>Pain:</b>		
None	17 (33%)	55 (53%)
Cyclical	21 (41%)	36 (35%)
Noncyclical	13 (25%)	12 (12%)
<b>Lump:</b>		
None	21 (41%)	5 (5%)
Juxta-areolar	23 (45%)	33 (32%)
Peripheral	7 (14%)	65 (65%)
<b>Nipple:</b>		
No change	13 (25%)	89 (86%)
Inversion	5 (10%)	6 (6%)
Discharge	21 (41%)	7 (7%)
Inversion + discharge	12 (24%)	1 (1%)
<b>Sepsis:</b>		
None	41 (81%)	102 (99%)
Abscess	4 (8%)	1 (1%)
Fistula	6 (12%)	0

Table 2. Operation, histology and outcome

	Syndrome (n = 51)	Incidental (n = 103)
<b>Operation</b>		
Excision ( $\pm$ biopsy)	26 (51%)	77 (75%)
Formal duct excision	21 (41%)	3 (3%)
Mastectomy	1 (2%)	23 (22%) (malignancy)
Nipple eversion	3 (6%)	0 (0%)
<b>Histology</b>		
Duct ectasia alone	28 (55%)	4 (4%)
Duct ectasia with:	22 (43%)	75 (73%)
fibroadenosis	20 (39%)	67 (65%)
fibroadenoma	1 (2%)	4 (4%)
papillomatosis	1 (2%)	4 (4%)
Duct ectasia + carcinoma	1 (2%)	24 (23%)
<b>Outcome</b>		
No further problem	24 (47%)	81 (79%)
Further outpatient treatment	15 (29%)	18 (17%)●
Further surgery necessitated	12 (24%)	6 (6%)●

● Associated malignancy

no specific features. X-ray mammography similarly demonstrated the benign nature of the ductal pattern<sup>6</sup>. It was performed in 30 patients with the syndrome and 64 patients in the incidental group. The benign nature was reported in 47% of patients.

#### Operation

For syndrome patients 51% underwent excision biopsy alone, 41% had a formal duct excision<sup>7,8</sup> and 6% underwent a nipple eversion procedure. In one case mastectomy was necessary for persistent sepsis.

#### Histology

Histological examination demonstrated duct dilatation alone in over half of the syndrome cases. In over 40%, fibroadenosis was noted coincidentally. In the incidental finding group, one-quarter of all duct ectasia was secondary to carcinoma of the breast; small numbers of coincident fibroadenomas and duct papillomas were seen. Fibroadenosis was the primary diagnosis of two-thirds of patients in this group.

#### Operation and outcome (Table 2)

One-quarter of all syndrome patients required further surgery after the initial operation, and in 29% the symptoms necessitated further outpatient attendance. In contrast, the incidental finding group seldom required further attention (except where malignancy was present).

Further study of the syndrome group showed that the commonest indication (75%) for operation was nipple change. Whereas simple excision biopsy carried a high risk of subsequent operation (in 11 of 26 patients in the syndrome group), only one patient following formal duct excision required further surgery.

Sepsis associated with duct ectasia was attended by a high rate of further surgery (44%) and occurred bilaterally in half of the patients.

#### Discussion

Mammary duct ectasia is a clinical syndrome, but the diagnosis should be secured by histological confir-

mation. The syndrome is defined here by the presence of one primary symptom (nipple change or sepsis) or both secondary symptoms (pain and lump) with exclusive histology.

The incidence of mammary duct ectasia syndrome in this survey was 4%. This agrees with other reports<sup>4</sup>. The incidental finding of duct ectasia in another 8% appears to be high, but is lower than the incidence of up to 25% quoted in postmortem studies in women of all ages<sup>9</sup>.

Our symptom inquiry has yielded results in accord with previous descriptions. If mastalgia is present we believe it to be most commonly cyclical, with premenstrual worsening. Bloody discharge is noted as a presentation of the syndrome. It is most likely, however, that mastalgia in the incidental group is related to fibroadenosis rather than duct ectasia. Mammography requires further evaluation as a diagnostic tool for duct ectasia<sup>10,11</sup>.

There is considerable overlap in the clinical presentation of duct ectasia and fibroadenosis. When duct ectasia is noted as an incidental finding it is not possible to be certain of its clinical significance. Histological coincidence was noted in 87 cases in this series.

Formal duct excision gives good results for this disease. Excision biopsy, however, was attended by the need for reoperation in just under half of the cases.

The predominant feature which distinguishes the 'syndrome' and 'incidental' groups is the presence of sepsis in the former. It is postulated that duct ectasia occurs commonly as an incidental finding. Many women therefore have nonsymptomatic duct ectasia which only becomes apparent when infection supervenes. Recent studies have implicated anaerobic bacteria as important pathogens<sup>12</sup>. This survey suggests that secondary infection of duct dilatation leads to the syndrome.

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