Original article

Microdochestomy in women aged over 50 years

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Management of a spontaneous single duct nipple discharge without associated mass and normal mammography remains controversial. Our study examined the pathological results of 52 women of all ages treated with microdochestomy for single duct nipple discharge. Malignant or pre-malignant lesions were identified in 1 patient under 50 years of age and 2 patients over 50 years. Papilloma was the most frequently identified pathology in both age groups (60% of patients under 50 years and 73% over or equal to 50 years of age). Our results suggest that microdochestomy is a safe effective treatment in women aged over 50 years.

Key words: Nipple discharge – Microdochestomy – Papilloma – Age

Management of a spontaneous single duct nipple discharge with no associated mass and normal mammography remains controversial. One study suggests an expectant policy whilst others advocate microdochestomy in all such patients.^{1,2} Historically, major duct excision has been recommended as the treatment of choice in post-menopausal women, with microdochestomy reserved for premenopausal women. This study explores the safety of performing microdochestomy in all women presenting with spontaneous single duct nipple discharge.

Patients and Methods

Over a 5-year period, 52 patients underwent microdochestomy for spontaneous single duct nipple discharge without associated lump. The mean age was 53.5 years (range, 20–82 years). Pre-operatively, nipple discharge was sent for cytology and mammogram was performed in the majority of patients. Neither ductography nor ductoscopy was carried out in any patient. Microdochestomy was performed under general anaesthetic and a lacrimal probe was passed down the involved duct. A partial circum-areolar incision was used to cut down onto the probe. The

Table 1 Appearance of nipple discharge on clinical examination

Appearance of discharge	Total number of patients (n)	Patients with cancer/DCIS/ADH (n)	Patients with benign disease (n)
Blood-stained	19	2	17
Clear	21	0	21
Coloured	12	1	11

duct and a small surrounding area of tissue was then excised. A corrugated drain was left *in situ* for 24 h. A review of the histopathology was performed.

Results

The appearance of the nipple discharge was coloured in 12, clear in 21 and blood-stained in 19 patients (Table 1). Of the 52 women included in the study, 42 had mammography performed. Of these, one mammogram was suspicious (M4) with an ill-defined mass centrally placed in the left breast, but the histology reported a papilloma and fibrocystic change only. Another mammogram

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Table 2 Cytology results

Cytology results	Total number of patients (n)	Patients with cancer/DCIS/ADH (n)	Patients with benign disease (n)
Blood cells	15*	2*	13
Benign ductal cells	14	0	14
Acellular	6	1	5

*One case reported as blood and atypical cells (C4).

detected microcalcification in the asymptomatic right breast and this was treated according to our breast unit protocols. However, in this same patient, despite acellular cytology of the left nipple discharge, histology revealed a tiny focus of invasive carcinoma arising from an area of DCIS in a papilloma. She decided to have a mastectomy and reconstruction rather than more conservative measures. Of the 35 patients who had cytological examination of the nipple discharge, only one was suspicious (C4). Histology in this case reported a papilloma and a small area of atypical ductal hyperplasia (ADH) which was completely excised (Table 2). One other patient's histology reported an area of invasive adenocarcinoma, DCIS, papilloma and duct ectasia and she proceeded to mastectomy.

Overall, 60% of the 21 patients under 50 years and 73% of the 31 patients aged 50 years or over had papilloma as the underlying cause of the nipple discharge. In our small series, these results suggest that papilloma is the most common pathology identified after microdochectomy for single duct nipple discharge across all age groups (Table 3). All patients, except those with carcinoma, were seen in out-patients 6-weeks post-surgery and discharged from further follow-up. No patient included in the study has returned to our unit with recurrence of symptoms of spontaneous nipple discharge. The 2 patients with carcinoma and the one patient with ADH have been followed up for 5 years with no evidence of recurrent malignant disease.

Discussion

Nipple discharge is a common presentation to breast clinic. In one study over 32 years, 4.8% of women presented with nipple discharge although only 2.6% occurred spontaneously. Controversy surrounds the management of such patients including their initial investigations through to the requirement and type of surgery.

Ultrasonography has recently been explored and found to be useful in identifying intraduct papilloma or papillomatosis.⁴ However, at the time our patients presented, ultrasonography was not part of our unit's protocol for

Table 3 Histology of microdochectomy specimens according to age (n = 52)

	Patients under 50 years	Patients 50 years or over
Malignant/premalignant disease		
+ papilloma ± other benign disease	1	2
Papilloma ± other benign change	12	21
Other benign changes	7	7
No lesion identified	1	1
Total number of patients	21	31

investigating nipple discharge. Fibre-optic ductoscopy is one of the latest developments in the investigation of single duct nipple discharge although most studies have been carried out in Asia. Shen *et al.* recommend ductoscopy as a safe alternative to ductography in guiding surgical intervention for nipple discharge and quoted a positive predictive value of 83% for fibre-optic ductoscopy screening.⁵

There are several advocates of ductography as a useful adjunct to surgery. It can be a useful diagnostic procedure in that it may identify duct ectasia or fibrocystic change and possibly avert surgery or localise the lesion peri-operatively leading to an increase in the identification of specific pathology at surgery.^{6,7} However, other studies suggest an unacceptable rate of false positives with the procedure and considerable patient discomfort.^{8,9} Our unit does not use ductography and only proceeds with surgery if discharge can be elicited from a single duct pre-operatively. In only 5% of patients were we unable to identify a convincing cause of the discharge, but the symptoms resolved post-surgery and the patients have not represented to our unit in the past 4 years. In this study, cytological examination was suspicious in only one case which proved to be ADH on histology. The cytology was acellular and erythrocytes only in the 2 cases of adenocarcinoma. However, other studies have recommended the usefulness of cytology in raising suspicions about malignancy.^{10,11}

Mammography is another investigation whose usefulness is controversial in the investigation of nipple discharge. Of the two patients with DCIS and adenocarcinoma, mammography failed to detect any abnormality. Similar failure of mammography has been identified in numerous other studies,^{2,11,12} although one study in Nottingham had a good pick-up rate of DCIS on mammography and proposed an expectant policy in nipple discharge management by omitting surgery in the presence of a normal mammogram.¹

The surgical options for the treatment of nipple discharge are either single or multiple duct excision. Mansel recommends major duct excision in women over 45 years as a safe, effective procedure with good cosmesis when performed well and provision of maximal histological information.⁸ However, several studies advocate microdochectomy as the

treatment of choice with minimal morbidity, few missed cases of malignancy and may be performed under local anaesthetic.^{1,2,13} Our results demonstrate only 3.8% of patients had malignancy. Of our patients, 69% had papilloma as the cause of nipple discharge which compares well with a larger study that identified intraductal papilloma in 47.8% and malignancy in 6.1% of patients.³

Conclusion

Microdochectomy is a safe, effective way of managing persistent, spontaneous, single duct nipple discharge without associated mass in women over 50 years of age.

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