ORIGINAL ARTICLE

Management of Nipple Discharge: Our Experience

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ABSTRACT

Background: Nipple discharge continues to be a bothersome complaint by the patients. Nipple discharge is associated with non-malignant causes as well and needs proper evaluation and treatment. We conducted a study in our department to study the various non-malignant causes of nipple discharge and their management.
Patients and Methods: Patients presenting with complaints of nipple discharge, either spontaneous or non-spontaneous in the age group of 15-55 years were included in the study. Patients with breast cancer, lump, or abscess were excluded.
Results: A total of 66 patients with a mean age of 39 were selected for analysis. The mean age of the patient was 39 years. 32 patients (48.4%) had greenish discharge, 16 (24.4 %) had bloody discharge, 12 (18.2%)had clear discharge and 6 (9.09%) had milky discharge. Cytology revealed epithelial cells in 38 (57.57%), duct papilloma in 16 (24.4), histiocytes in 10 (15.1%), and atypical cells in 2 (3.03%) patients. Ultrasonography of the breast was done in 36 (54.5%), X-ray mammography in 30 (45.5%) patients. A total of 27 (40.9%) patients underwent surgery, of whom 12 (18.2%) were subjected to microdochotomy and 15 (22.7%) to Hadfield's operation. The histopathology of the resected specimen revealed duct papilloma in 16 (24.4%) patients, duct ectasia in 10 (15.1%), and ductal carcinoma in situ in 1 (1.1%) patient.
Conclusion: Management of nipple discharge is complex and involves a multidisciplinary approach. The majority of patients can be managed conservatively, however, a significant number of patients need surgical treatment as well.
Keywords: Nipple discharge, triple assessment, microdochotomy
JMS; 2020;23(4): 20-23 DOI: https://doi.org/10.33883/jms.v23i4.814

INTRODUCTION

Nipple discharge is the third most common complaint related to the Breast for which women seek medical attention[1]. Approximately 5% to 7% of women referred to breast clinics have symptomatic nipple discharge. Upto50% of women in their reproductive years can express one or more drops of fluids from their breast[2].

A discharge may occur spontaneously or only with breast manipulation such as squeezing nipples[3]. It can be physiological or pathological based on the patient's history in conjunction with clinical examination. Physiologic nipple discharge is often bilateral non-spontaneous, white, yellow, green, or brown in color. It often is due to nipple stimulation and the patient can elicit discharge by manually manipulating the nipple[4], whereas pathologic discharge is bloody, clear, spontaneous, or from a single duct[5]. Benign conditions such as papillomas or duct ectasia are the commonest causes of unilateral bloody discharge. A rare but major cause of spontaneous nipple discharge is breast cancer which accounts for 7%-33% of the cases[6]. The majority of patients {94%}having fluid with secretory

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Access this article online

Website: www.jmsskims.org

DOI: https://doi.org/10.33883/jms.v23i4.814

How to cite this article: Thakur N, Mehraj A, Shah M, Khurshid S, Andrabi S, Lone T, Chowdri N, Bijili AH. Management of Nipple Discharge: Our experience.JMS 2020;23(4):20-23

Received: 2020-12-28 Accepted: 2021-01-12

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components was associated with fibrocystic changes and other non-proliferative breast lesions[7].

AIM OF THE STUDY: To study the various non-malignant causes of nipple discharge and their management.

MATERIAL AND METHODS

This study was done at a tertiary level referral institute in north India for a period of one year, w.e.f May 2019 to April 2020. Data of patients who presented to our breast clinic with complaints of any sort of nipple discharge was analyzed retrospectively.

Inclusion criteria for the study included

Age 15-55 years

Spontaneous nipple discharge

Non Spontaneous discharge.

Exclusion Criteria:

Age > 55 years

Documented breast carcinoma

Breast abscess

Patients were assessed by a triple assessment that included clinical examination, cytology of breast fluid, and imaging. Besides, patients were evaluated for any history of diabetes mellitus, hypertension, hypothyroidism, seizure disorders, previous breast surgery, drug history like intake of Proton pump inhibitors, antidepressants, etc. Characteristics of nipple discharge whether unilateral or bilateral, color, spontaneous or non-spontaneous, single duct, or multiple ducts was also noted. A thorough clinical examination of all four quadrants of the breast was done by an expert breast surgeon. If there was discharge without squeezing, the patient was sent for cytology and imaging. If the patient's history and physical examination were consistent with physiological discharge on squeezing, patients were reassured and were advised against squeezing and stimulation of nipples. Cytology and imaging of the patients were done according to the age of the patient. Younger patients were asked to go for the ultrasound of the breast due to denser breasts and older patients above 40 years were asked for mammography. MRI ductography was done in selected cases, where initial findings were doubtful. Serum Prolactin and thyroid function test was also done in all patients. Patients with a diagnosis of breast cancer on cytology were excluded and those with other benign pathologies were included in the study. Most of the cases were managed conservatively by reassuring patients, asking them to avoid nipple stimulation, and in some cases correcting their underlying cause. In case of persistent bothersome and bloody nipple discharge patients were subjected to surgery. Excision of the single duct (microdochotomy) or complete excision of ducts (Hadfield surgery) in case of multiple ducts discharge.

RESULTS

A total of 66 patients were included in the study. The mean age of the patients was 39 years. 32 patients (48.4%) had greenish discharge, 16 (24.4 %) had bloody discharge, 12 (18.2%)had clear discharge and 6 (9.09%) had milky discharge. We had 22 (33.3%) patients with spontaneous discharge, out of which 4 patients had galactorrhea with increased serum prolactin levels who were subsequently referred to the endocrine department for evaluation. 44 (77.7 %)patients were having non-spontaneous discharge. 23 (34.8%) patients had discharge from a single duct whereas the remaining 43 (66.2%) had discharge from multiple ducts. There were 40 (60.6%) patients with unilateral discharge and 26 (39.4%) patients with bilateral discharge. Cytology of discharging fluid was done in all cases which revealed epithelial cells in 38 (57.57%), duct papilloma in 16 (24.4), histiocytes in 10 (15.1%), and atypical cells in 2 (3.03%) patients. Ultrasonography of the breast was done in 36 (54.5%), X-ray mammography in 30 (45.5%) patients. 12 patients had doubtful findings on initial radiological investigations and were subjected to MRI ductography. Preoperative diagnosis was made on radiology in all patients which was subsequently confirmed on histopathological examination of the resected specimen, except for one patient whose initial radiological examination was suggestive of duct ectasia but histopathological examination showed ductal carcinoma in situ. A total of 27 (40.9%) patients underwent surgery, of whom 12 (18.2%) were subjected to microdochotomy and 15 (22.7%) to Hadfield's operation. The histopathology of the resected specimen revealed duct papilloma in 16 (24.4%) patients, duct ectasia in 10 (15.1%), and ductal carcinoma in situ in 1 (1.1%) patient. Table 1and 2 summarises the clinical, operative, and histopathological findings.

Table 1: Summary of Clinical and evaluation results

Characteristic		Number (percentage)
Site	Unilateral	40 (60.6%)
	Bilateral	26 (39.4%)
Ducts involved	Single	23 (34.8%)
	Multiple	43 966.2%)
Type of discharge	Spontaneous	22 (33.3%)
	Non spontaneous	44 (77.7%)
Colour of discharge	Greenish	32 (48.4%)
	Bloody	16 (24.4%)
	Clear	12 (18.2%)
	Milky white	06 (9.09%)
Cytology	Epithelial cells	38 (57.6%)
	Duct papilloma	16 (24.4%)
	Histiocytes	10 (15.1%)
	Atypical cells	02 (3.03%)
Imaging	Ultrasonography	36 (54.5%)
	X ray mammography	30 (45.5%)
	MRI ductography	12 (18.2%)

Table 2: Summary of surgical and histopathological findings

Characteristic		Number (Percentage)
Surgery	Microdochotomy	12 (18.2%)
	Hadfield's operation	15 (22.7%)
Hist opathology	Papilloma	16 (24.4%)
	Duct ectasia	10 (15.1%)
	Ductal carcinoma in situ	01 (1.1%)

DISCUSSION

Nipple discharge is a common presentation of both benign and malignant diseases of the breast. The management of spontaneous nipple discharge in patients over 39 years should undergo diagnostic excision[8]. Nipple discharge results from a range of causes which may be either physiological or pathological. 4 of our patients had nipple discharge because of raised prolactin levels, for which they were referred for endocrinological evaluation. Others were treated either conservatively by reassurance or by surgery. Combining the clinical, radiological, and cytopathologic features of the patients may be useful for predicting malignancy in these patients[9]. In our study, all 66 patients underwent radiological evaluation and the preoperative diagnosis was corroborative with the histopathological examination in all patients except one in whom a ductal carcinoma in situ was diagnosed. When diagnostic imaging for evaluation of pathologic nipple discharge is negative, management is based on clinical suspicion. If additional imaging is warranted, MRI is preferred because of sensitivity, specificity, and patient comfort[10]. In our study, 12 patients had doubtful findings on initial mammography and ultrasound and hence were subjected to MRI ductography. 27 patients from our study underwent surgery, either microdochotomy or Hadfield's operation, depending upon the number of ducts involved. Alcock C and Layer G.T in their study were of the view that ductal surgery remains the only reliable way of providing a diagnosis in addition to being the major therapeutic measure[11].

CONCLUSION

Though nipple discharges are believed to be benign, the dilemma of the clinician is to determine which patients with nipple discharge can be safely observed and which discharges require further evaluation.

Funding source: None

Conflict of interest: None

Written informed consent: Taken

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