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BREAST NIPPLE DISCHARGE, PRESENTATION, CURRENT MANAGEMENT, PROSPECTIVE STUDY FROM 2019 TO 2023

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Abstract:
Nipple discharge, or the outflow of fluid from the breast nipple, is a typical symptom that many women experiences, including pain and anxiety, and it is often the first complaint patients have when seeking medical attention. It is possible for nipple discharge to be the first sign of breast cancer. Patients & methods Conducting a prospective study from July 2019 to July 2023, the researchers followed 258 hospital patients. Participants were all female. Nipple discharge was the primary complaint of every patient who was part of our research. All patients underwent a comprehensive evaluation that included a clinical examination, mammography, ultrasound, and cytology. Patients who arrived with nipple discharge and a suspected breast lump were eventually subjected to fine needle aspiration cytology (FNAC) and a conclusive histological investigation. Result Nipple discharge was most commonly reported by women in the 30–39 age range (32.5%), with bloody nipple discharge accounting for 40.8% of all cases. Abnormal nipple discharge is more prevalent in benign breast illnesses compared to malignant ones (40.8%). A high percentage of malignant breast illnesses (79.1%) could be accurately diagnosed by direct cytology from nipple discharge. With a success rate of 100%, histology was the gold standard for diagnosing malignant breast illnesses; FNAC ranked second with 78.5%. Conclusions Neglecting nipple discharge, especially if it is bloody or purulent in nature, might lead to the misdiagnosis of benign or malignant breast illnesses. It is possible to diagnose breast cancer with high accuracy using direct cytology from nipple discharge. For malignant breast illnesses, histopathology provides a definitive diagnosis when a mass is present. Aim: was to identify the most prevalent symptoms of nipple discharge in women with advanced breast cancer, as well as the ages at which these symptoms first appeared, and to establish a connection between nipple discharge and this lesion. Reasons why nipple discharge evaluation is crucial for diagnosing and ruling out breast cancer.

Keywords: Nipple discharge, breast diseases, ages.

Introduction

The term "nipple discharge" describes any fluid that comes out of a breast that isn't pregnant or nursing. Nipple discharge (ND) is an intricate healthcare provider has a diagnostic dilemma since it might present as a normal occurrence or an indicator of several disorders. Milk ducts number fifteen to twenty in each human breast. The discharge from the nipples might come from any one of these milk ducts. Both the patient and the doctor should prioritize the possibility that a patient's breast discharge is related to breast cancer that is under the surface. More and more women are seeing their doctors about breast cancer screenings as the disease becomes more widely known. leaking of the nipple. Therefore, when assessing nipple discharge, a doctor needs to be alert and well-versed. The patient often has nipple discharge when ER visits can be either harmless (physiologic discharge) or indicative of a medical problem. During the latter trimester of pregnancy, the postpartum period, and the nursing phase, it is common to experience nipple discharge. Normalcy may also be shown in females who do not intend to become pregnant or nurse, particularly while they are still in their reproductive years. Specifically breast-related techniques like fondling, licking, or massage might trigger the release of milk via the milk ducts. It has also been demonstrated that stress can induce nipple discharge.[1] On the other hand, it is important and requires more assessment. It is usually necessary to do an assessment when males experience nipple discharge, as it is abnormal.[2][3]

Etiology

The vast majority of nipple discharges are caused by harmless substances, accounting for 97% of all cases. Why a woman's nipples may discharge naturally:

1. Expectant Motherhood
2. Nursing motherhood
3. Galactorrhea following childbirth, which can persist for as long as two years.
4. Following either an unplanned or planned abortion
5. Symptoms of breast fibrocyst
6. Mood swings caused by menstrual cycle hormones
7. Ectasia in the ducts
8. Periductal papilloma

Factors that lead to abnormal nipple discharge:

1. Periductal mastitis is an infection.
2. Breast infection
3. Mammary neoplasms (such as intraductal carcinoma and Paget's disease)
4. Prolactinoma and pituitary tumor
5. Trauma to the chest and breast
6. Hypothyroidism, hypothalamic or pituitary gland abnormalities, chronic renal disease, and other endocrine diseases can cause systemic illness and increase prolactin levels.

issues affecting the liver)

7. A negative consequence of drugs that block the release of dopamine, such as opioids, oral contraceptives, and antihypertensives (methyldopa, reserpine, and verapamil), when taken in excess, drugs that treat depression and schizophrenia

Epidemiology

Third on the list of most common breast complaints, after by mass and discomfort, is nipple discharge. In the reproductive years, between 50% and 80% of women have 6.8% of patients with nipple discharge end up seeing a breast surgeon. Nearly all nipple discharges are harmless (97%).[5]

Medical Background and Examination

Differentiating between harmless and suspicious or pathologic nipple discharge is best accomplished by reviewing the patient's medical history. The patient's age is crucial, especially for female patients

individuals experiencing pathologic discharge are more likely to be older than 40 years of age. It is unusual for nipple discharge in postmenopausal women to be benign. It is important to document the beginning of the discharge, whether it is associated with the menstrual cycle or not, how long it lasts, and what kind and color it is as part of the current sickness history. A A patient's reproductive history, including their ages at menarche, menopause, and previous pregnancies (especially their first full-term pregnancy), should be carefully documented. Additional pertinent medical records include a family history of breast cancer, a history of breast biopsies, and a history of surgery (such as a hysterectomy or the removal of the ovaries, if applicable). diagnostic purposes, they must be eliminated. Ask women who are not yet menstruating about their past pregnancies, births, nursing experiences, and oral contraceptive use. synthetic hormone treatment, often known as HRT. The menopausal state of close relatives, as well as information regarding malignancies (particularly breast and ovarian), should be included in a family history. family members. Because nipple discharge is a side effect of many drugs, it is crucial to know the patient's medication history. You can't afford to ignore the existence of fever, signs of hypothyroidism (such as aversion to cold, difficulty passing stool, and irregular menstrual periods), signs of liver illness (such as ascites), and symptoms of fever (mastitis or breast abscess) To narrow down the differential diagnosis of nipple discharge, it is helpful to look for symptoms of jaundice, vision abnormalities, amenorrhea, and headache, which are signs of a pituitary tumor. It is important to check the patient thoroughly for any abnormalities, such as lumps, asymmetry, or changes in the skin. Following the examination, it is important to palpate all four search for lymphadenopathy, swelling, pain, and lumps in the upper and lower breast quadrants as well as in the axillae on both sides. Without any natural If discharge is evident, the examiner should try to remove it by placing uniform pressure on the nipples from the outside in (also known as pressure the test. Typical physiological discharge characteristics include non-stickiness, numerous ducts, clear fluid, and

bilaterality. Unilateral and spontaneous pathologic discharge is the norm. different in appearance, and using a single duct depends on the reason. Other abnormalities, including a mass, can often present with aberrant discharge. symptoms such as redness, edema, dimpled skin, or a retracted nipple.

Evaluation

In an emergency room or general outpatient context, the main objective of nipple discharge evaluation is to identify patients whose discharge is benign. from people at high risk of developing pathologic processes, those with underlying breast cancer, infections, or abscesses. Individuals in that age group, Their medical history and physical examination point to a benign reason for their release, so they may rest easy and go home with instructions to visit their primary care physician for follow-up treatment. office of the provider. Nevertheless, for patients whose discharge was due to a pathologic condition or who had concerning medical history or physical exam findings, Seek immediate follow-up with a breast surgeon.[2][4] When evaluating breast discharge, it is important to first determine if the discharge is normal or abnormal. There is a bilateral physiological discharge that is translucent or hazy. Whenever there is pathology, the discharge is always one way and might even be bloody. Because of this, you should pay attention to the discharge's color, whether it happens on its own or in response to external stimuli (in a physiological sense). To round up the diagnosis, related symptoms are also taken into consideration. By measuring levels of TSH and prolactin, we can rule out systemic factors as potential sources of nipple discharge in individuals with physiological discharge. Those with less than 40 years old, regular monitoring is necessary. Mammography is recommended for women over the age of 40. For those experiencing abnormal discharge, a mammogram and an ultrasound are conducted. Biopsies are taken from the breasts if anything seems off. Subsequently, a breast MRI or, in the event that the results are normal, the lump may be surgically removed. is performed when a lump is detected. It is also possible to investigate the cancer cells in individuals with blood discharge using fluid cytology in cases when breast cancer is thought to be. [6][4] In the event that a breast abscess is suspected or clearly visible, it is necessary to have an emergency breast ultrasound and consult with a general surgeon. department. Both the breast ultrasound's findings and the opinions of the general surgery doctors will determine whether the patient is sent to the surgical procedure to open an abscess and drain its contents. The significant risk of infection makes emergency room incisions and drainages of breast abscesses unfavorable. discomfort and the area's cosmetic importance, particularly in cases when an abscess is present in the areola or nipple region. Hence, the right kind of anesthetic is required, Maybe in the operation room, to take aesthetics and the patient's pain and suffering into account simultaneously.

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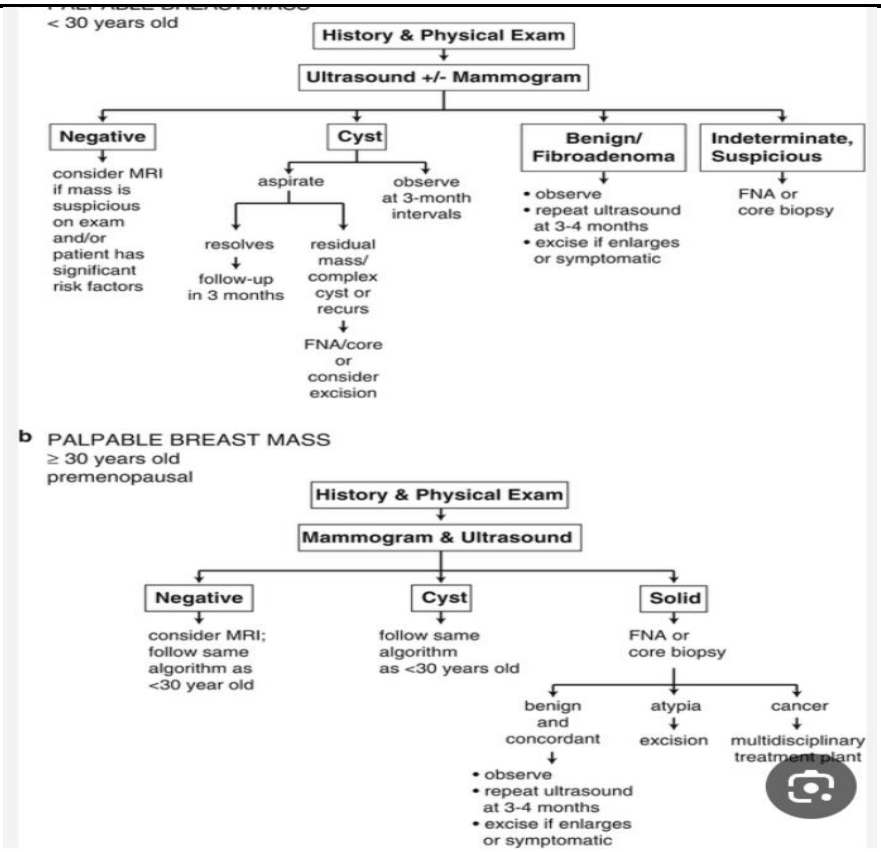

Intervention / Supervision

Breast discharge therapy is condition specific. No therapy is necessary for physiological discharge. Does nipple discharge have a systemic cause? If so, certain drugs. For benign reasons, such as duct ectasia, breast discharge can be treated with microdochectomy or complete duct excision. plumbing systems. Duct papillomas necessitating microdochectomy are those causing a unilateral discharge of blood. Surgical intervention is necessary when a woman experiences a bloody nipple discharge after a mastectomy. and/or radiation, chemotherapy, or both, as the cancer progresses. Antibiotics are effective in treating purulent discharge, although incision and drainage are necessary for abscesses. examination of the abscess's drainage and the wall using biopsy.

Method for Diagnosing Nipple Discharge

Currently, we are evaluating and managing nipple discharge patients are compiled in . Gathering medical history and conducting regular exams reviewing the material is the initial crucial stage. More mature Having a personal or family history of breast cancer increases the chance of developing carcinoma with age. does not always indicate the presence of another malignancy etiology. Menstruation that has just started or

Moreover, hypogonadism symptoms (such as hot flushes, cause for concern when it comes to vaginal dryness is elevated prolactin levels. It is important that the discharge's features be collected and meticulously documented in an effort to classify as a result of galactorrhea, lactation, or discharge that is pathogenic. The doctor has to make sure you know if the discharge happened on its own or induced, one-sided or two-sided, the traits the volume of the expelled fluid, how often the discharge occurs, and if the The patient is using a nipple stimulation technique to check to release from custody. This last consideration is critical because routinely checking one's own discharge can lead to continuous or even unprompted emission. Performing breast exams on a regular basis stimuli may inhibit the release of hypothalamic factor that inhibits prolactin, leading to high levels of prolactin and gallstones [16]. The purpose of the physical exam is to identify any taking the time to examine the breasts, nipple, and areola in addition to feeling all of the breast parenchyma, on top of that, the subareolar tissue; localized lymph nodes. Thoroughness is required to check the nipple for signs of a duct-associated horizontal crease ectasia, a nipple-producing organism discharge. It is possible to apply gentle pressure at the along the mouth's edge to check for discharge. Following discharge, the fluid might be searched for potential sources of origin from one or more ducts, hue, and consistency (smooth, thick, adhesive, etc.). Hemocompatibility testing of the effluent is carried out, since there was a bloody and serous discharge may have a connection to a several cases of breast cancer [9, 20]. A cytology report is

is not routinely done because of the potential consequences of Studies lack sensitivity and specificity when it comes to an primary carcinoma of the breast [9, 20–23]. In addition to in individuals whose cancer has been confirmed by biopsy, 29% of The discharge's cytology specimens have been

were found to be free of cancerous cells or malignancy [24]. Assuming the patient is diagnosed with subareolar discomfort, redness around the eyes, and soreness in the area around the eyes after bloody discharge from the nipples, which is in line with a subareolar abscess instead of a real discharge from the nipples. It is clear that these people are being approached unique and necessitates a tailored approach interplay between antibiotics and potential a cut with a drainage systemand/or the removal of the ducts located beneath the arches [25].

Laboratory and Imaging

Studying Nipple Drainage

No radiologic investigations are absolutely necessary, with the exception of regular screening mammography in cases the patient's medical background and exam results show that

the effluent typically displays harmless characteristics Releasing patients who are nursing do not require ongoing assessment, including individuals with occult or viscous blood in the milk that was pumped out. Individuals coping with No more assessment is necessary for galactorrhea in breast cancer, but it's important to check for underlying

reason for hyperprolactinemia, which involves a cautious examining the patient's past and current drugs in order to identify potential brain-stimulating factors that might inhibit nipple-areola complex the hypothalamic secretion of inhibitory component, as well as the patient's medical history and current diagnoses diagnosing and monitoring pituitary lymph node [16]. Following this, one can do experiments in the lab investigation into galactorrhea using serum prolactin levels, even if the amount of prolactin in the blood is

seen in over 50% of women who exhibit symptoms of diarrhea caused by gallstones. Gallstones when there is no It is uncommon for hyperprolactinemia to be caused by any illness progression throughout time. Regarding patients whose nipple discharge is pathologic and unmistakably harmless characteristics . Next, we will go on to evaluation mammography.

(for those 30 and above) and subareolar scan using an ultrasonic wave. The many imaging techniques reportedly having the ability to divide apart patients with an increased likelihood of developing cancer from people having a low risk . Cancer risk with pathologic discharge from the nipples and an irregular mammography, although it's a rare occurrence, can reach 60%

Together with the potential dangers of a non-standard ultrasonography, the is 7% for mammograms.

The assessment can benefit from ductography. by using effectively using subareolar ultrasound reduces ductography's extra diagnostic yield to a minimum. We seldom employ ductography here at our institution. instead of using it as a means of diagnosis, but to offer a "roadmap" that is necessary for the removal of the subareolar duct when the choice to execute has been made such a procedure. The main advantage of the purpose of ductography is to pinpoint the exact location of the lesion, generally in the situation of numerous and peripheral lesion . Radiologic guidance, including

in order for the wire or radioactive seed to be located to guide the removal of the main duct and guarantee making sure the lesion or affected region is entirely removed. Interestingly, ductography has been shown to failure to detect up to 20% of ductal lesions might include those that are harmless [4]. Despite the fact that bad There has a pretty high predictive value of 82% to 91%. To this day, it lacks the sensitivity to ruling out cancer as a potential cause. Within a single ductography was linked to a group of 163 patients being 76% sensitive, a particular city of 11% with a rather low positive predictive value of roughly 19%. Because of how well this test performs, it challenging to rationalize routinely exposing patients to an uncomfortable operation if the subareolar sonography is a possibility. The significance of ductoscopy in the discharge of nipples is still up for debate. Even if this method is cancer has shown some encouraging signs, shown to foretell ductal cannulation failure via use of the ductoscope. Guided ductoscopy removal, such as removal guided by ductography, apparently causes atypia to occur more frequently. in a minimum of one series, or cancer. In addition to One hundred and forty-four female patients, of whom fifty percent were

half through surgery and half through ductoscopic guiding on their own, the results of the pathology tests did no discernible difference between the categories. Plus, from a technical standpoint, ductoscopy failed. in one-third of participants. As of right now, consider ductoscopy to be a diagnostic tool with limited use importance in nipple discharge, more refinements Across the realms of technology and methodology, potentially expanding its future utility. Irrespective of whether breast MRI is superior to imaging in identifying hidden cancers individuals experiencing leakage from the nipples, other Papillomas are typically not visible on magnetic resonance imaging (MRI), according to research. It might indicate low sensitivity for something that isn't secret cancer. Through fifty-two those whose nipple discharge is questionable MRI of the breasts was used to study them, and the sensitivity specifically for cancer(77%) and non-cancer(62%), on the other side. The accuracy with which There was a 56% MRI rate and a 56% negative predictive score of 87%. Considering the low likelihood of the pretest underlying cancer in females the very small specificity of nipple discharge one would anticipate that a breast MRI will yield a statistically significant frequency of false positive results. It has Breast MRI is expensive, which, when added to
present worth in this company restricted. Making a Call on Biopsy
and removal of the subareolar duct At the end of the patient's history and physical, omitted individuals exhibiting typically benign a mammography that is within normal range, and subareolar once an ultrasound has been performed, the danger of cancer rate is minimal. Carcinoma incidence in a A group of 57 patients who had these traits and who had the subareolar duct removed and came out completely unharmed. yet another 124 individuals who did not have cancer with The median follow-up period is two years [17]. Various other research given a typical risk of carcinoma of around 3% medical history, a clear mammogram, and usual ultrasound [20]. When advised on the majority of patients choose for relatively low-risk

Table 6.2 Cancer risk by clinical scenario

Clinical scenario[a] – nipple discharge with	*N*	Risk of carcinoma (%)	Risk in other reports
All patients with nipple discharge	204	3	6–21 % [1–6, 13]
Nipple discharge, underwent biopsy	75	9	
Non-spontaneous discharge	49	0	
Bilateral discharge	52	2	
Unilateral, spontaneous, serous discharge from single duct	49	4	
Unilateral, spontaneous, bloody discharge from single duct	60	7	
Unilateral bloody/serous discharge, single duct, and negative mammogram	106	3	3 % [11]
Unilateral bloody/serous discharge, single duct, negative mammogram and negative ultrasound[b]	57	0	3 % [1]
Unilateral bloody/serous discharge, single duct, negative mammogram and abnormal ultrasound	30	7	
Unilateral bloody/serous discharge, single duct, and abnormal mammogram	5	60	13 % [11]

[a]Some patients' characteristics overlap categories
[b]One patient with carcinoma had *bilateral* discharge and a negative mammogram and ultrasound, but she had undergone wire-localized, bilateral subareolar duct excisions 6 months prior at another institution

instead of subareolar duct for clinical follow-up excision. Close clinical follow-up is an option that patients have. suitable for conducting a medical evaluation and every six months for subareolar ultrasound 1-2 years, or until the discharge goes away, whichever comes first. arrives first. A lot of ladies opt to alleviate symptoms, if necessary, subareolar duct excision Their discharge lasts for at least a year, no matter what due to the minimal possibility of underlying cancer. TheThe typical amount of time that benign discharge lasts is 12 months was mentioned [20], however, nipple discharge may persist in some individuals for as long as four decades [17]. When it comes to patients with abnormal imaging findings individuals who opt to have diagnostic subareolar removal of the ducts, a significant duct removal is It would be best if she doesn't intend to breastfeed in the future. It has been documented that major duct excision can uncover a greater proportion of hidden cancer results in a lower number of patients compared to microdochotomy [10] and is linked to the need for additional duct excision procedures [10] in the five years that followed [18]. So long as the intended ultrasound or mammography can detect the lesion. with ductography occurring within 2 centimeters of the nipple should be taken into account to determine the role of the precisely located lesion. Upon detection of the lesion by screening for breast cancer, ultrasound, or ductography and beyond the nipple by more than 2 cm, diagnostic imaging it is suitable for localization to accurately and efficiently cut out the problematic area. With regard to alternate individuals, cannulating the problematic duct using a The intraoperative use of a lacrimal probe is common to ensure a precise removal. A total of 192 patients were studied and administered at our facility using a defined algorithm In this study, 66% of patients opted to have strict clinical monitoring in place of subareolar removal of the ducts, with 88% of those individuals not having a discrepancy shown by ultrasound or mammography. We discovered that every single patient with malignancy had unusual finding on imaging. This group of patients was then 20% of patients ultimately opted for subareolar ongoing discharge necessitated removal of the conduit. For those who aren't getting subareolar duct 81% of cases resolved on their own after excision. they secrete from their nipples.

Table 6.1 Comparative rates of carcinoma risk

Characteristic	Carcinoma rates (%)	*p*
Age ≥50 vs. <50 years	6 % vs. 0 %	0.02
Unilateral vs. bilateral discharge	4 % vs. 2 %	0.49
Spontaneous vs. non-spontaneous	5 % vs. 0 %	0.13
Serous/bloody vs. other discharge	5 % vs. 0 %	0.10
Abnormal vs. normal mammogram	38 % vs. 3 %	<0.01
Abnormal vs. normal ultrasound	12 % vs. 1 %	<0.01
Abnormal vs. normal ductogram	6 % vs. 0 %	0.64

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PATIENTS AND METHODS

Samples One hundred fifty-eight hospitalized patients were the subjects of a prospective trial that ran from July 2019 to July 2023.The breast clinic of the hospital was the source from which all patients were chosen. A nipple discharge was seen in all female patients who participated in our study. All patients underwent a comprehensive evaluation that included a clinical examination, mammography, ultrasound, and cytology.

Patients who came in with nipple discharge and breast masses were evaluated with fine needl aspiration cytology (FNAC) and definitive histology.

Clinical evaluation: In the past: Comprehensive medical history that covers the following topics: patient's age, the length of time they've been experiencing symptoms, their marital status, if they are pregnant or lactating, their primary complaint, any other symptoms they may be experiencing, any lumps in their breasts, any history of breast disorders, and any past breast operations.It was my supervisor and the staff at the breast clinic who conducted the physical examination. The color of the discharge from the nipples, changes in skin tone or color, nipple retraction, lump location, size, and movement, lymph nodes in the area, and a check of the cotralatral breast.Health care providers at the hospital's ultrasonography department conduct the examination. Hospital mammography staff do the examination.Pathologists from the teaching hospital's histopathology department performed the cytology, FNAC, and histopathological procedures.

Statistical Analysis

All statistical analyses will be performed using SPSS. The data of the practitioners will be mainly analyzed descriptively due to the small sample size. Interferential statistics will be used to identify group differences. Statistical significance is set at $p < 0.05$ (two-sided) and effect sizes will be reported.

RESULTS

The distribution of ages: The most prevalent age group for women expressing concerns about nipple discharge was (30–39), followed by (40–49). Table 1 and Figure 1 are references.

Patients whose complaints were related to nipple discharge and their ages are shown in Table 1.

Age	Number of patient	%
10 – 19	18	6.9
20 – 29	33	11.7
30 – 39	84	33.5
40 – 49	69	27.8
>50	54	19.1
Total	258	100

Among the several kinds of nipple discharge, the most prevalent ones were bloody and perulant, while watery and serosangous were less common.According to Table 2.
Discharge Patterns from the Nipple (Table 2)

Types of nipple discharge	Number	%
Bloody	105	41.8
Purulant	72	27
White	33	12.5
Serous	24	9.5
Watery	15	5.8
Serosangous	9	3.4
Total	258	100

There is a robust correlation between nipple discharge and breast lumps.A high frequency of nipple discharge that was both bloody and perulant was linked to breast lumps. While fewer cases of breast lumps were linked to other forms of nipple discharge.(Figure 2 and Table 3).
The correlation between breast mass and nipple discharge types is seen in Table (3).

Types of nipple discharge	With mass n (%)	Without mass n (%)	Total	P Value
Bloody	66 (45.8)	39 (34.1)	105	P > 0.05
Purulent	42 (29.1)	30 (26.2)	72	P > 0.05
White	12 (8.3)	21 (18.4)	33	P > 0.05
Serous	15 (10.4)	9 (7.8)	24	P > 0.05
Watery	6 (4.2)	9 (7.8)	15	P > 0.05
Serosangous	3 (2.1)	6 (5.2)	9	P > 0.05
Total	144	114	258	

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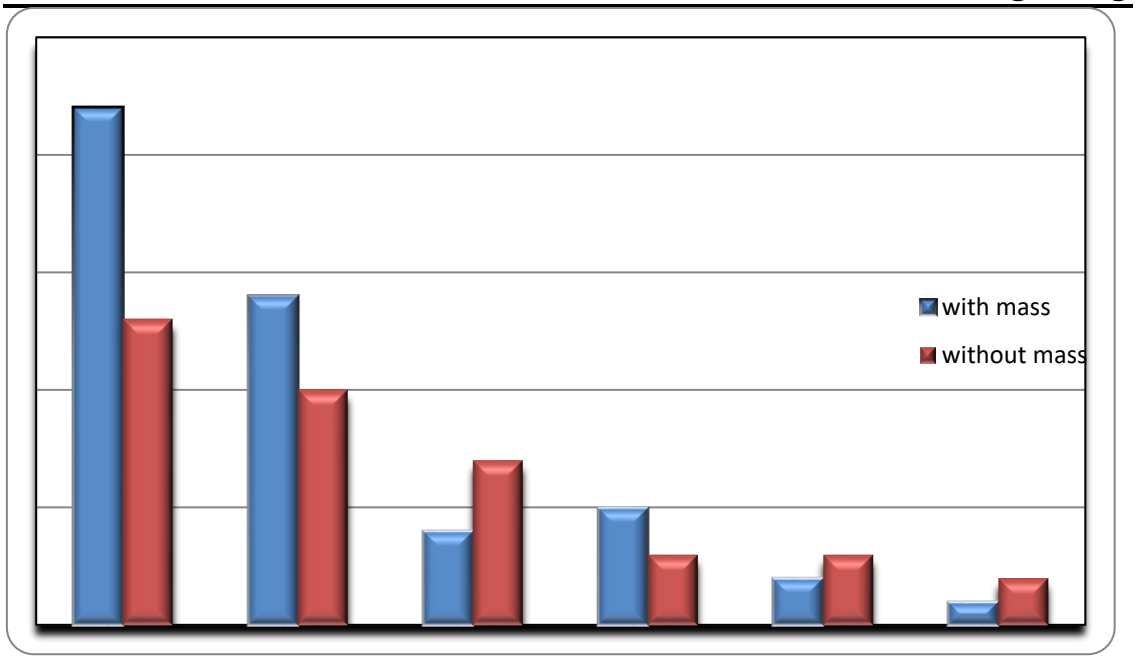

Infinity times ten thousand thousand.. See Figure 2 for a visual representation of the correlation between breast mass presence and nipple discharge type.Various forms of nipple discharge and benign and malignant breast diseases:
Noncancerous breast disorders are more likely to cause abnormal nipple discharge. Cancer of the breast is a major indicator of a bloody nipple discharge. Less prevalent than bloody nipple discharge are the perulant, serous, and serosangous kinds, which are likewise linked to malignant breast illnesses. No correlation was found between cancer of the breast and discharge that was watery or white from the nipples.[Table 4] and [Figure 3].
Breast disorders (benign or malignant) and the forms of nipple discharge (Table 4) are related.

Type of nipple discharge	Benign breast diseases n (%)	Malignant breast diseases n (%)	Total	P value
Bloody	60 (32.2)	45 (62.5)	105	P < 0.05
Purulent	60 (32.2)	12 (16.6)	72	P > 0.05
White	27 (14.6)	6 (8.3)	33	P > 0.05
Serous	18 (9.7)	6 (8.3)	24	P > 0.05
Watery	15 (8.1)	0 (0)	15	P > 0.05
Serosangous	6 (3.2)	3 (4.1)	9	P > 0.05
Total	186	72	158	

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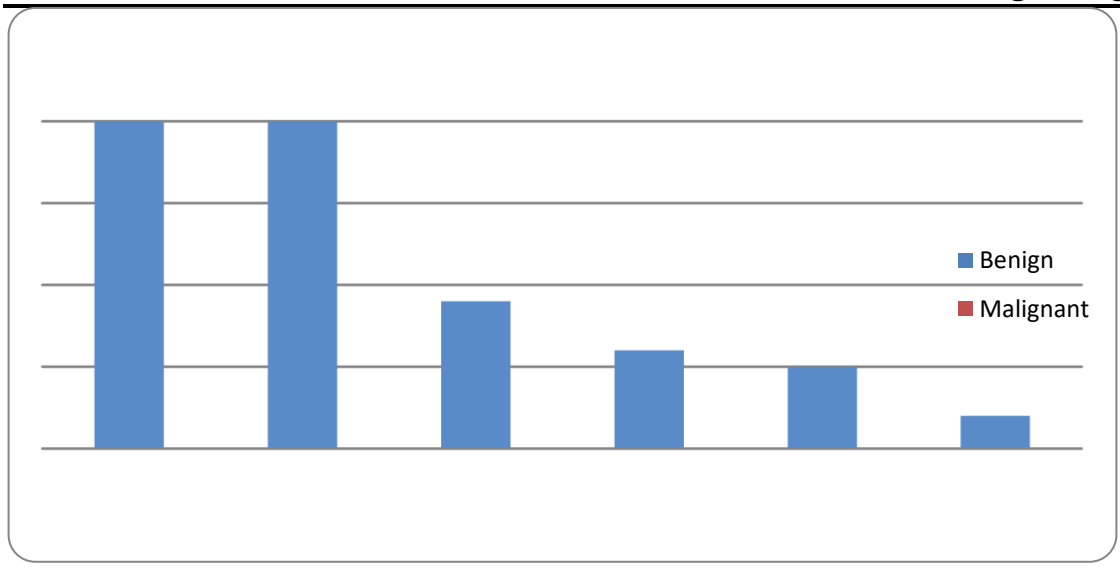


The correlation between benign and malignant breast illnesses and the kind of nipple discharge is shown in Figure 3. Where benign and malignant illnesses manifest in relation to the nipple cavity.

When it comes to breast cancer and benign conditions, unilateral nipple discharge is more prevalent than bilateral nipple discharge. Tipple discharge location and benign and malignant disorders are related, as shown in Table 5.

	ND with benign n (%)	ND with malignant n (%)	P value
Unilateral Breast	132(70.9)	63 (87.5)	P > 0.05
Bilateral breast	54 (29.1)	9 (12.5)	P > 0.05
Total	186	72	258

Using direct cytology to assess nipple discharge effectiveness: Direct cytology from nipple discharge reliably detected malignant cells in several cases, making it an effective diagnostic tool for breast cancer.Results from nipple discharge cytology and the incidence of cancer (Table 6)

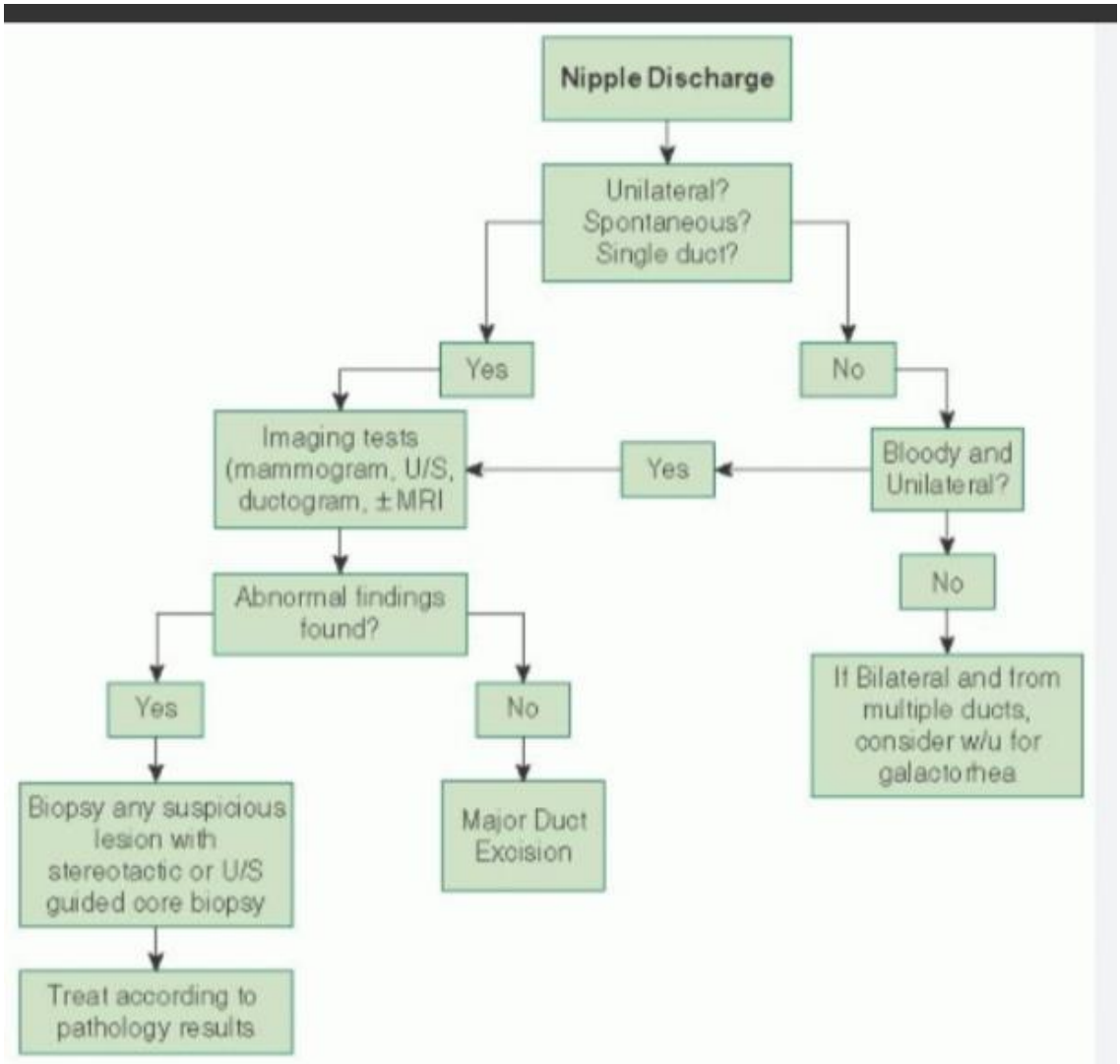
	No malignant	%	Malignant	%	Total
Cytology from nipple discharge	23	19.8	85	79.2	108

Evaluation of diagnostic tools for the detection of cancers of the breast:

Although direct cytology from nipple discharge and FNA C were less reliable diagnostic tools, histopathology remained the gold standard for identifying malignant

breast illnesses. Even if radiology, including breast ultrasonography and mammograms, was unable to detect cancerous breast illnesses during the clinical examination, Evaluation of diagnostic tools for the detection of breast cancer (Table 7) the number two-hundred-two-hundred-two-two-hund.

	Number of malignant cases	%
Clinical examination	8	16.6
Radiology (ultrasound and mammogram)	18	37.5
Cytology from nipple discharge	38	79.2
F N A C	42	78.5
Histopathology	48	100



DISCUSSION

As a surgical pathologist, you will frequently meet breast lesions. Elevated preoperative diagnosis accuracy is of the utmost importance due to the rising incidence of breast cancer. By utilizing a threefold method, the most precise preoperative diagnosis of breast lesions may be attained. In this idea, FNAC, clinical evaluation, and imaging data are all brought together [4]. varies between one month and seven years, with an average of around ten months. With respect to 33 individuals, the discharge was unilateral, whereas 17 patients had bilateral discharges. Voluntary discharge occurred in twelve patients (24% of the total), while areolar and periareolar squeezing caused discharge in thirty-eight patients (76% of the total). Among the patients surveyed, 18% had uniorificial discharges and 64% had multiorificial ones. Of the instances where discharge was noted, eight (16%) had chronic discharge and forty-two (84%), intermittent discharge [5]. had gone back to 1995–2005 and looked at 416 individuals who presented with ND as their primary complaint. Discharge durations were found to vary between one week and five hundred twenty-two weeks, with an average of twenty-six weeks. In this study, twenty-five patients were evaluated using FNAC. All cases had nipple discharge and lump, and the sensitivity, specificity, positive predictive value, and negative predictive value for malignancy were 100%. Their investigation, which ran from August 2002 to May 2003, yielded results that are similar to those of [22]. Fifty women were included in the study; all of them had a diagnostically palpable breast lump and were undergoing FNAC and excision biopsy at the same time. The results showed that out of 12 instances of malignancy confirmed by excision biopsy, 9(75%) were confirmed by FNAC, 2(16.7%) were deemed suspicious, and 1(8.3%) was incorrectly identified as fibrocystic disease, resulting in 1 false negative (1 out of 12). Among the 38 benign cases identified by excision biopsy, FNAC accurately identified duct ectasia in 3, TB in 2, and galactocele in 1. Twenty fibroade-nomas (30.9%) were accurately identified by FNAC, whereas two (9.1%) were deemed unacceptable. The FNAC system was only 60% accurate in identifying fibrocystic disease out of 10 cases where an excision biopsy was performed. Histological examination of the one instance that FNAC had identified as fibrocystic illness revealed cancer. After reviewing the histology reports, we found four cases of fibrocystic disease, three of which were classified as unsatisfactory and one as suspicious on the FNAC. There was a sensitivity of 91.66 percent and a specificity of 99.99 percent for FNAC. The presence of spontaneous nipple discharge in breasts that are not breastfeeding warrants further evaluation as a concerning clinical symptom.Based on research conducted by Sheen-Chen et al. in 2001. Often reflecting the nature of the underlying lesion, the discharge's kind and character have high predictive value.Paterok et al. (2003) claims.. Because we recruited our patients from the breast clinic at Baquba teaching hospital, where men are less likely to seek medical care due to social norms and more likely to consult with outside clinics, our sample consisted of 86 female patients rather than two males, aged 16 and 14, respectively.

Distribution of ages:

Consistent with (Paterok EM et al., 2003), our study found that participants aged 30–39 (32.5% of the total) and 40–49 (26.8% of the total) were the most prevalent age groups.

Section 4-2-2: Different forms of nipple discharge

Our results are consistent with those of the study by Paul R. et al. (2000), which found that bloody discharge was the most prevalent kind of nipple discharge (40.8% represented).

The connection between secretion from the nipples and breast masses:

In our study, we found that patients with bloody or purulent discharge were more likely to have a breast mass, compared to patients without a mass. This finding contradicts the results of a previous study by Chrles et al. (2001), which found that most patients did not have a mass. The lack of adequate health education regarding the significance of breast diseases and their symptoms, as well as the limited availability of specialized breast clinics in our country, likely contribute to this discrepancy.

How different kinds of nipple discharge are associated with benign and cancerous breast diseases:

This finding is consistent with previous research by Caleffi et al. (2004), which found that abnormal nipple discharge, regardless of its type, is more prevalent in benign breast diseases compared to malignant ones. Specifically, bloody nipple discharge was found to be the most common type in malignant breast diseases, with a p-value of less than 0.05, indicating significance.

Location of nipple discharge in relation to benign and malignant illnesses

We found that unilateral nipple discharge(75.5%) is more prevalent than bilateral nipple discharge(24.5%) in both benign and malignant breast illnesses, which is consistent with the findings of (Rosen PP, et al., 2001). A study conducted by Sheen-Chen et al. in 2001 found that direct cytology of nipple discharge was effective in diagnosing malignant breast diseases (79.1% success rate in identifying malignant cells). This finding is consistent with our own findings.

When it comes to diagnosing breast cancer, how reliable are the tests?

Comparing the efficacy of diagnostic tests for nipple discharge, we find that histopathology(100%), FNAC (78.5%), and direct cytology (79.1%), all of which are accurate in diagnosing malignant breast illnesses (Caleffi M, et al., 2004).

Conclusion

1-A significant indicator of breast illness in its early stages is nipple discharge.

2. The existence of a breast lump is linked to the majority of occurrences of nipple discharge, namely bloody discharge.

3- Don't ignore nipple discharge of any kind, but especially if it's bloody or purulent; it might be an indicator of cancer or a benign breast condition.

4-The diagnositic value of direct cytology from nipple discharge for malignant breast illnesses is high.

5. The histology can distinguish between breast cancers.

To diagnose nipple discharge, a clinical examination, mammography, and FNAC are all appropriate options. It is important to do a triple examination on all patients who report nipple discharge in order to reach an accurate and timely diagnosis. Finally, the use of a systematic approach to nipple discharge enables the doctor to categorize patients with pathologic nipple discharge into groups based on risk. As an alternative to putting all patients with pathologic discharge through invasive surgery and unnecessary, costly diagnostics, low-risk individuals can safely get attentive clinical follow-up. Although 20% of patients with chronic symptoms will ultimately choose for surgery, the majority of patients who get risk-stratification data opt out of surgical intervention when they are shown to be at low risk.

Recommendation:

1-Breast cancer awareness campaigns should focus on nipple discharge as an early warning sign.

2–Even for minor breast complaints, it is recommended to attend the breast clinic often. This will aid in the early discovery and care of more serious breast disorders.

3-The breast clinic needs its own dedicated space and should have all the necessary diagnostic equipment, including radiology and laboratory services.

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