

Nipple Discharge: Evaluation and Management

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Abstract

Nipple discharge is a common symptom women complain of. It is classified as normal or abnormal depending on features such as laterality, cycle variation, quantity, color or presentation (induced vs spontaneous). It can be related to benign conditions such as intraductal papilloma, duct ectasia, plasma cell mastitis, galactorrhea or malignant such as ductal or papillary

carcinoma. Techniques used in nipple discharge evaluation include mammography, ultrasound, cytology, duct endoscopy, the mammary pump, ductography, immunohistochemical methods and surgical excision of the pathological ducts.

Keywords: nipple discharge, galactorrhea, papilloma, duct ectasia, mammary pump

Introduction

Nipple discharge is a common presenting symptom women complain of. Three out of ten women who present to their doctor for a breast examination have nipple discharge. Nipple discharge is 7% to 10% of all breast symptoms⁽¹⁾. Common features of nipple discharge are the following:

- It may be unilateral or bilateral.
- It presents cycle variation.
- It is induced or spontaneous.
- It may be clear, serous, milky, yellow, green, pink or slightly bloody, brown or black (old blood).
- It may originate from one or multiple ducts
- It may be of small, moderate or large quantity.

The discharge may be accompanied by other clinical findings such as:

- Breast findings: mastodynia, palpable mass, palpable lymph node, pruritus or skin depression.

- Local: herpes zoster, tuberculosis, trauma, previous surgery of the breast or the thoracic cage.

- General: fever, headache, myxoedema, visual disturbances.

The spontaneous or induced nipple discharge may be identified either by the patient accidentally or during clinical examination. Less commonly it may present during mammography secondary to pressure.

Not all nipple discharge is abnormal. Therefore it is necessary to categorize it to normal, abnormal or to attribute it to galactorrhea according to history and physical examination.

Normal Discharge

Normal discharge is non-spontaneous, and is usually bilateral. It is serous and originates in many ducts. Multiple duct discharges are rarely caused by cancer⁽²⁾. In cases not related to breast pathology, mechanical stimulation,

thoracic trauma, and medications are included in the differential diagnosis. The patient who is curious to check for discharge may cause continuous mechanical stimulation. In such cases discontinuation of the stimulation will discontinue the process.

Women should be advised to avoid checking themselves for discharge since benign discharge may resolve when the nipple is left alone^(3,4). Medications linked to nipple discharge are antihypertensives, hormones, phenothiazines, tranquilizers, antidepressants, antipsychotics and others⁽⁵⁾, summarized in Table 1⁽⁶⁾:

In drug induced galactorrhea the discharge is milky, bilateral, it originates in many ducts and it is copious in quantity. The diagnosis is reached by a good history and it will be confirmed by the discontinuation of the medication. No further workup is indicated in these cases and the patient should be

Table 1. Medications and herbs associated with Galactorrhea⁽⁶⁾

<ul style="list-style-type: none"> ■ Antidepressants and anxiolytics <ul style="list-style-type: none"> - Alprazolam - Buspirone - Monoamine oxidase inhibitors <ul style="list-style-type: none"> - Moclobemide - Selective serotonin reuptake inhibitors <ul style="list-style-type: none"> - Citalopram - Fluoxetine - Paroxetine - Sertraline - Tricyclic antidepressants ■ Antihypertensives <ul style="list-style-type: none"> - Atenolol - Methyldopa - Reserpine - Verapamil ■ Antipsychotics <ul style="list-style-type: none"> - Histamine H2-receptor blockers <ul style="list-style-type: none"> - Cimetidine - Ranitidine - Farotidine ■ Hormones <ul style="list-style-type: none"> - Conjugated estrogen and medroxyprogesterone - Medroxyprogesterone contraceptive injections - Oral contraceptive formulations 	<ul style="list-style-type: none"> ■ Phenothiazines <ul style="list-style-type: none"> - Chlorpromazine - Prochlorperazine - Others ■ Other Drugs <ul style="list-style-type: none"> - Amphetamines - Anesthetics - Arginine - Cannabis - Cisapride - Cyclobenzaprine - Danazol - Dihydroergotamine - Domperidone - Isoniazid - Metoclopramide - Octreotide - Opiates - Rimantadine - Sumatriptan - Valproic acid ■ Herbs <ul style="list-style-type: none"> - Anise - Blessed thistle - Fennel - Fennugreek seed - Marshmallow - Nettle - Red clover - Red Raspberry
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Image 1

breast disease even if the discharge contains blood. It is associated with an underlying malignancy in 1.2% to 15% of patients⁽⁷⁻¹²⁾. One should identify the quadrant that is involved by applying pressure on the breast and this way the affected duct can be easily localized.

Lesions that may be linked to abnormal discharge are intraductal papillomas, duct ectasia, mastitis, fibrocystic changes, carcinoma and Paget's disease (Image 1).

Bloody, unilateral and discharge originating from one duct are features associated with suspicious lesions⁽¹³⁾. In such cases an intraductal malignancy cannot be excluded and therefore surgical intervention should not be delayed. According to various reports, cancer is diagnosed in 5%⁽¹⁴⁾, to 7.5%⁽¹⁵⁾ or even in up to 11%⁽¹⁶⁾.

Galactorrhea

Galactorrhea is typically bilateral, it originates in many ducts and the discharge is milky. This is typical in pharmacological galactorrhea and discontinuation of the medication will eliminate the finding.

Table 2 may be used to categorize nipple discharge according to its nature.

reassured. During pregnancy and postpartum (until after 2 years) nipple discharge is normal and milky in nature. The same applies after a spontaneous abortion or termination of pregnancy in the second trimester.

In the remaining cases, nipple discharge may or may not be associated with malignancy.

Abnormal nipple discharge

Abnormal nipple discharge is defined as non-lactational, persistent, spontaneous and unilateral⁽⁷⁻¹²⁾. It is usually located in one duct. As it is usually spontaneous, it may as well disappear. It may be green or grey, serous or bloody in appearance. The most common cause of this discharge is usually benign

Table 2. Nipple discharge features based on its nature⁽¹⁷⁾

Nature of Discharge	Etiology	Localization	Ducts involved
Milky	Postpartum Medications Hyperprolactinemia Chiari-Frommel syndrome	Bilateral	Multiple
Serous/Serosanguinous	Intraductal Papilloma Intraductal cancer	Unilateral	One
Bloody	Intraductal Cancer Inflammation Trauma	Unilateral	One or two
Green	Fibrocystic Disease	Bilateral	Multiple

Etiology of Nipple Discharge

1. Benign diseases

Intraductal papilloma

Intraductal papilloma is a local intraductal hyperplasia with simultaneous formation of a vascular and neural axis that eventually becomes macroscopically visible. Solitary or multiple papillomas are the most common cause of nipple discharge reported (35%-62%)^(7,10,11,18-22). Sixty-80% of intraductal papillomas are accompanied by spontaneous or induced bloody, serous, aqueous, or sero-sanguinous discharge, one of its main clinical findings. A 5% risk of developing into invasive carcinoma has been reported⁽²³⁾.

Papillomas affect women 35-50 years old, they vary in size, they are round or lobular, they have a broad base or they are pedunculated, they may be located in any quadrant, although the more frequent location is in a big duct behind the nipple, they may be single or multiple and they are not usually accompanied by a palpable mass. Nevertheless, if the papilloma is greater than 1cm and close to the nipple, it may be palpable.

The presence of multiple papillomas is called papillomatosis, a common finding in menopausal women. Scattered areas of increased density with microcalcifications are the mammographical finding in papillomatosis. (This presentation is not typical of the disease). In intraductal papillomas, there is bloody flow only if there is a communication between the cyst and the duct. The remaining clinical findings are the typical of a cyst. When bloody fluid is aspirated from the cyst, a differential diagnosis between the benign intracystic papilloma and cancer must be made by the cytological evaluation of the specimen⁽¹³⁾.

Papillomas may be diagnosed by ductography, in which there is one or multiple contrast filling defects of smooth contour in the duct or interruption of contrast flow in the duct where the papilloma exists. Similar may be as well, the presentation of ductal cancer. The diagnosis is confirmed by cytology where papillomatous formations are visualized and by ductography where interruption of contrast flow in the duct is identified where the papilloma is located. Ductography will facilitate the surgical management and simplify the

differential diagnosis between benign intraductal papilloma and papillary carcinoma.

The management of a papilloma requires a surgical procedure: microductectomy or pyramidectomy^(15,24,25); it consists of dissection of the affected duct. A small sound is used to catheterize the duct where the discharge is originating and methylene blue dye is injected in order to visualize the duct branches. After the nipple has been stabilized, the dye colored duct is dissected from the nipple to the depth and the specimen has a triangular shape. After meticulous hemostasis has been obtained, rebuilding of the retroareolar area is performed and a small drain is placed.

Duct ectasia

Duct ectasia is the cause of nipple discharge in 11% of patients⁽⁷⁾.

There is a broad terminology used in various reports for the same entity: "varicocele-like tumor", "plasma-cell mastitis", "obstructive mastitis", galactophoritis", "duct ectasia" and "periductal mastitis" are some of the terms used. The last two terms are widely used and are the most representative of the pathology. The other terms mentioned earlier represent different stages of the same entity. Duct ectasia usually accompanies benign breast conditions (epithelial hyperplasia, papillomatosis) but may also be associated to breast cancer.

The diagnosis is set by high sensitivity ultrasonic evaluation together with a cytological assessment of the discharge and if the discharge originates from one duct, by the ductography.

Duct ectasia is different from cystic disease, as it is an inflammatory process, affecting usually the ducts below the nipple. It develops gradually either through the ductal system or the breast lobes. Its presentation also varies depending on the duration of the process.

Clinically it presents as a firm stable mass under the nipple, similar to a malignant mass. It is more common in the perimenopausal years. It is interesting to mention that in 1/3 of mastectomy specimens in women over 50 years, sub-clinical duct ectasia was diagnosed. The cause is unknown although breastfeeding may be related. It is unknown and contradictive whether the inflammatory

process proceeds or follows the dilatation of the duct. We believe that the primary process is the dilatation of the duct and the accumulation of amorphous "cheese-like" secretion. The acute inflammation may be caused by epithelial rupture and diffusion of the contents into the fibrous duct-wall and the underlying structures. These contents consist of neutral fat and lipid crystals that are typical of duct ectasia. The chronic granulation-type reaction may develop foreign body-like giant cells and a multiform inflammatory cell population. As the whole process in duct ectasia is long in duration, sometimes plasma cells are dominant in the inflammatory infiltrations. This finding impressed some pathologists who used the term "plasma cell mastitis" in order to describe duct ectasia.

Other findings in duct ectasia are the following:

- Serous or green-white nipple discharge in 20% of the cases.
- Nipple inversion that leads to fibrosis and development of ring or tubular calcifications. This finding is typical in the mammogram and especially when the disease is in advanced stages.
- Apocrine metaplasia with or without epithelial hyperplasia. The epithelial layer consists of widened atrophic cells.

This condition may be managed with antibiotics but in persistent or recurrent cases, with surgical excision of the ducts below the nipple. A focused excision is preferred rather than a complete subareolar excision since the later technique is associated with higher rates of seroma formation, nipple numbness and nipple inversion^(15,26).

Plasma cell mastitis

Plasma cell mastitis is a rare type of chronic mastitis characterized by the presence of multiple plasmacytes cells in microscopical examination. It is usually found in multiparous women and is caused by the condensation of the breast discharge. Typical findings include thickened ducts and fibrosis that may be multicentric. In palpation there is a firm mass impression and fibrosis may lead to nipple inversion. It may be accompanied by serobloody and thick nipple discharge. Cancer should be included in the differential diagnosis.

Other

Other syndromes that are indirectly related to the breast discharge are neuro-hormonal causes such as the amenorrhea-galactorrhea syndrome (Chiari-Frommel), pituitary adenomas, hypothyroidism, diabetes mellitus etc. Investigations such as TSH, T3, T4, and prolactin levels are necessary in such cases. Hyperprolactinemia must be ruled out with CTs and visual field tests. In a few selected cases, tests should include measurement of estradiol levels, progesterone and androgens.

2. Malignant diseases: carcinomas

All types of breast carcinoma (Ductal, Lobular, Tubular, Medullar etc.) are sometimes diagnosed because of the symptom of nipple discharge. Special importance should be attributed to Papillary carcinoma despite the fact it is a rare malignancy (<1%). It is usually intraductal and may present initially as a unilateral nipple discharge that originates in one duct.

More than 50% of the cases it appears mammographically as a high-density lesion with accompanying calcifications. Ductography and cytology are used to reach the diagnosis. Since almost 50% of lesions showing papillary features on cytology prove to be malignant, all cases reported as papillary on cytology should be excised urgently for histologic assessment⁽²⁷⁾.

Today it may be diagnosed by high sensitivity ultrasonic evaluation by an experienced physician.

Evaluation/Techniques

Because the majority of nipple discharge cases are more frequently due to benign conditions, less operative, non-surgical methods are applied to limit the need for surgical intervention⁽¹⁶⁾. The

woman that presents with nipple discharge must be managed according to her age by tests such as mammography, ultrasound and cytology. Early cancer cases are difficult to be identified, especially in young women with dense breasts.

Mammography

The clinical examination and mammography are first line diagnostic approaches. Mammography may reveal calcifications that must be evaluated. It is associated with a 9.5% false-negative rate and a 1.6% false-positive rate in detecting breast cancer in patients with nipple discharge⁽⁸⁾. Mammography is recommended to any patient presenting with abnormal nipple discharge, although it has poor positive predictive value (16,7%). This percentage reveals that it is not reliable in the diagnosis of the underlying cause of nipple discharge. Any mammographic abnormality should correspond with the quadrant of the breast from which the discharge originates for it to be considered relevant to the cause of the discharge. Because of its low sensitivity (59%) in the diagnosis of malignant duct pathology, it has limited value as a screening method in the management of nipple discharge. Almost 50% of the patients who are diagnosed with malignant breast disease and who underwent mammography did not have exact diagnosis of the corresponding duct pathology and there are studies that confirm that mammography is inadequate in the diagnosis of abnormal nipple discharge⁽²⁸⁾. Only half of the patients presenting with nipple discharge who were found to have cancer had an abnormal mammogram, mostly microcalcifications; (Image 2).

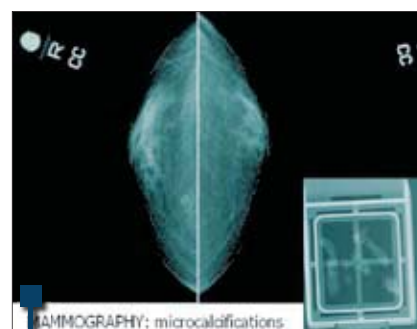


Image 2

Breast Ultrasound

The breast ultrasonography is complementary to mammography and will guide fine needle aspiration (FNA) and will help in obtaining cytology specimens from the abnormal area. The ultrasonographical findings of the most common causes of nipple discharge are presented in table 3.

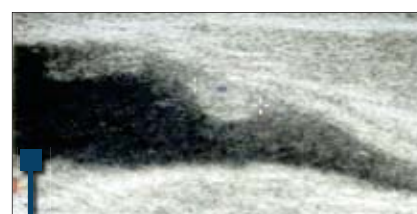


Image 3: Intraductal papilloma

Cytology

Cytological evaluation of nipple discharge can be done directly from the nipple. Lately, cytology has been improved by new techniques of "duct lavage" and "duct endoscopy" ("ductoscopy")⁽³⁰⁾. These later techniques are designed to check the abnormal cells that travel from the ducts to the nipple (Image 4.) Biological markers could also be analyzed in the liquid specimen. Nevertheless, this technique has high false negative findings, it is unrevealing and is not helpful in localizing a tumor^(7,11).

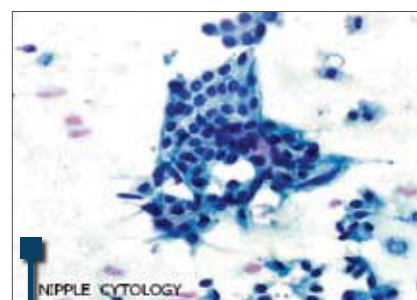


Image 4

Table 3. Ultrasonographical findings in common nipple discharge etiology⁽²⁹⁾

Etiology	Findings
Intraductal papilloma (Image 3)	Ovoid hyperechoic mass
Duct ectasia	Single or multiple tubular anechoic subareolar structures
Intraductal carcinoma	Calcifications, mass lesion with irregular shape or irregular borders, hypoechoic, with loss of bilateral edge shadowing, posterior acoustic transmission, non-uniform internal echotexture

It should be mentioned that in previous investigations in asymptomatic women with nipple discharge, a diagnosis of malignancy was made in 35% of cytology specimens (70% were suspicious for malignancy).

Duct endoscopy (Ductoscopy)

First developed in Asia during the 90's, this technique is performed under local anesthesia. It permits the visualization of the mammary ducts and it may be used for direct diagnosis of papillomas, cancer and direct cytological evaluation⁽³¹⁾. Endoscopy may also be combined with local techniques aiming to manage the lesion such as radiofrequencies, lasers and microwaves.



Image 5

Duct endoscopy, is performed by direct visualization of the lesion with a special instrument, the microendoscope (0,1- 0,2 mm in diameter), that is connected to a source of light (Image 5). Tumors up to 0,1mm in diameter can be visualized at a maximum distance of 10 cm⁽³²⁾.

The first step of the technique consists of an irrigation lavage during which the

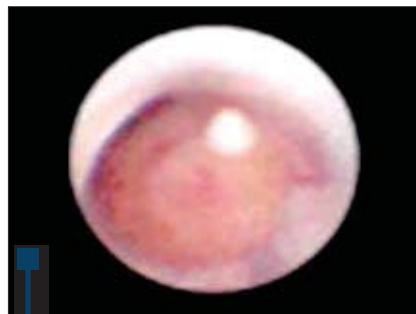


Image 6

breast is gently massaged in order to identify the duct where the discharge originates. After catheterization of the duct by a fine cannula, approximately 10cc of normal saline are injected and the liquid is then aspirated and sent to cytology. Then the duct is catheterized by an endoscope ranging from 1.1 to 0.5 mm in external diameter with a working channel of 0.35 to 0.45 mm that provides depth of perception during visualization.

The findings can be classified to the following⁽³³⁾:

- Obstructing endoluminal lesions.
- Epithelial surface anomalies.
- Papillomatous lesions (Image 6).
- Intra-duct scars adhesions & duct obliteration.
- Intra-ductal calcification.

Practical and technically feasible, duct endoscopy can be used even in the absence of nipple discharge or in normal non-ectatic ducts. It is a very promising technique especially when good biopsy instruments will be developed, since the findings will be correlated to histopathology⁽³³⁾.

Mammary pump

Zervoudis⁽³⁴⁾ has developed a simple instrument called "mammary pump" in order to obtain additional cytological specimen from tumors that are in close proximity to the nipple (Image 7).

This instrument can be also used to increase spontaneous nipple discharge that originates from benign breast lesions, for cytology. The principle of this technique is to suction cells from the breast ducts with negative pressure and to collect fluid with cells from the galactophoric tree.

The mammary pump is made of a 20cc syringe with its front end cut open by scissors. The syringe is adapted to a FNA gun that is used for cytology sampling.



Image 7. Zervoudis's Mammary pump: sucking technique

The suctioning technique begins after the skin has been prepared with antiseptic solution in circular massage movements over the breast from the periphery to the nipple for about 1 minute. The mammary pump is then placed on the nipple and 8-10 suctioning attempts are performed with a negative pressure of 3 cm. The patients very well tolerate the technique.

Table 4. Masood Cytologic classification⁽³⁵⁾

MASOOD CYTOLOGIC CLASSIFICATION						
Cellular arrangement	Cellular Pleomorphism	Anisonucleosis	Nucleoli	Chromatin clumping	Myoepithelial cells	SCORE
Monolayer	Absent	Absent	Absent	Absent	Many	1
Nuclear overlapping	Mild	Mild	Micronucleoli	Rare	Moderate	2
Clustering	Moderate	Moderate	Micro and/or rare micronucleoli	Occasional	Few	3
Loss of cohesion	Conspicuous	Conspicuous	Predominantly macronucleoli	Frequent	Absent	4

Score 6-10 = non proliferative breast disease

Score 11-14 = Proliferative breast disease without atypia

Score 15-18 = Proliferative breast disease with atypia

Score 19-24 = Cancer

The mammary pump collects fluid from the nipple and the smear is applied and stained on slides by using the Papanicolaou and Diff-Quick techniques. The Masood⁽³⁵⁾ semi-quantitative cytology score is used to classify the breast lesions (Table 4). Classical cytology and liquid-cytology with centrifuge techniques can be used as well.

The mammary pump is a complementary technique that increases the numbers of cells used in the diagnosis of breast disease. It applies to the evaluation of any nipple discharge and tumours in close proximity to the nipple, and may be used as an adjunct to FNA. The accuracy of the mammary pump in the detection of abnormal cells is 84% for typical hyperplasia lesions, 61% for atypical hyperplasia and 70% for intraductal carcinoma. These findings represent the correct diagnosis of the cytology specimen obtained by the mammary pump compared with the histological findings of the surgical biopsy. The technique has accuracy greater than 80% in the diagnosis of invasive ductal and lobular cancers, when the lesion is less than 4-5 cm from the nipple. Therefore, the technique can be used in the early diagnosis of breast cancer and the positive results may be used in the design of future studies.

Ductography

Ductography (galactography) is performed by dilatation, catheterization and injection of a water-soluble contrast by a 2cc Telebrix syringe. Craniocaudal, lateral and compression views are obtained (Image 8). The results may be characterized as Normal, Ductal dilatation, Filling defect or Cutoff sign⁽²⁶⁾.

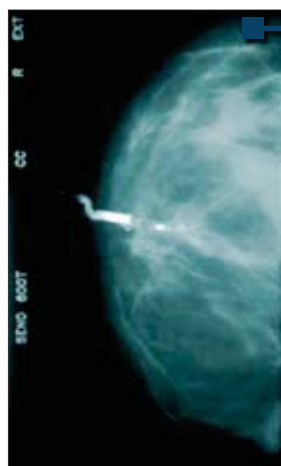


Image 8

It has been shown to be accurate in providing the location and depth of ductal abnormalities when a single duct is identified as the source.

Data regarding the location of the lesion greatly facilitate biopsy, especially with deep lesions. Galactography-aided wire or coil localization is a practical localization method for intraductal lesions not detectable on mammography or sonography⁽³⁶⁾. It improves the diagnostic yield of surgical biopsy from 67% in non-studied patients to 100% in patients receiving a ductography. After the lesion has been localized, excision will follow. Nevertheless, ductography cannot be effectively used for the differentiation of a benign versus a malignant lesion⁽³⁷⁾.

Immunochemical/Hemoccult (Beckman-Coulter, Palo Alto, CA)

The identification of blood in the fluid (blood in small quantities) may be potentially useful with concomitant cytological review. Blood identification kits with the Hemoccult technique are useful, but not necessarily in the prediction of the final pathology findings. The positive predictive value of the technique is <10%⁽³⁸⁾ to 20%⁽³⁹⁾. However, in 5-28% of cases, bloody or Hemoccult-positive discharge is more likely to be associated with cancer⁽⁴⁰⁾.

In general it should be underlined that mammography, ductograms, cytology and Hemoccult staining, used separately are inadequate in the correct diagnosis⁽¹⁶⁾.

Surgical Procedures

Biopsy should be performed if there is an accompanying palpable mass. Also, when nipple discharge persists in one or two single ducts or when it is bloody, biopsy should be performed by terminal duct excision^(14,41). The classical surgical technique "excision of the major ducts" described by Urban⁽²⁵⁾ is today supplanted by more conservative surgical techniques called microdochectomy or microdolichotomy or pyramidectomy.

Microdochectomy procedure⁽⁴²⁾:

After identifying the orifice of the discharging duct by gentle pressure on the nipple, the duct is probed with a fine lacrimal probe that is passed gently peripherally as far as possible without disrupting it. After gentle dilatation the probe is temporarily removed and a 22G intravenous cannula is inserted into the duct in order to inject 1-2 ml of methylene blue dye.



Image 9



Image 10



Image 11

The probe is then reinserted and the affected duct is marked. A limited circum-areolar incision is made to raise the areolar skin flap. The probed duct is then identified close to its attachment on the underside of the nipple and carefully dissected free of the surrounding tissues and the unaffected ducts over a length of 5-6 cm towards its proximal end. Finally the duct is removed by transaction and is marked with a single suture to orientate the specimen.

Many variations of the classical technique are described in the literature.

Our team has published in 2007 an original minimal surgical variation of the classical technique; we called it: "Transnipple pyramidectomy"⁽¹⁵⁾ (Images 9-10-11).



Image 5

The duct(s) that cause the pathological discharge are excised through a transnipple approach in a pyramid-shaped specimen. The initial steps described earlier in microdochectomy are identical. After the injection of methylene blue dye, a horizontal transnipple incision is made, the nipple is opened with forceps and the proximal part of the marked duct is grasped and excised. The technique has excellent aesthetic and functional results and preserves nipple sensation. Sometimes, when the excision of many the pathological ducts is necessary we extend the nipple's incision to the areo-

la horizontally for 1 cm in each side, and we perform a "transnipple-transareolar pyramidectomy".

The specimen looks like a pyramid: the peak represents the beginning of the pathological duct marked by a stitch; the base of the pyramid with the corresponded lobules is marked with methylene blue colorant (image 12).

The choice of the technique depends on the anatomy of the breast, on the age of the patient, and on the necessity to excise less or more ducts. In general in older patients, irrespectively of whether the discharge is localized to one or multiple ducts, major duct excision is preferred to provide comprehensive histology because breast cancer is more frequent (DCIS or invasive cancer), and to avoid probable further discharge from other ducts⁽⁴³⁾. In young patients when the discharge is localized to one or two ducts, because the aesthetic point and because the option of breast-feeding must be preserved microdochectomy can be performed⁽¹⁵⁾.

Conclusions

Nipple discharge is a common complaint (7-10% of all breast symptoms). It is necessary to determine the exact location (origin) and the cause of the discharge. Despite the most frequent causes are duct ectasia and benign papilloma we should remind that breast cancer is found in 6 to 8 % of pathological nipple discharge. Cytology remains a good indicative tool for diagnosis, but in the majority of the cases it is necessary to obtain a histological diagnosis by the surgical procedure. Moreover the surgery will treat the lesion definitively in cases on benign cause. Recently the development of endoscopic tools and fiber optics will allow safer diagnosis and treatment without any sacrifice in function and excellent aesthetic results⁽⁴⁴⁾. Today there are simple non-invasive or minimally invasive techniques that can be used in the evaluation and management of this condition which provide very good results in the majority of the cases. ■

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Cord Blood Center la final de an !

Pentru că anul se apropie de sfârșit și este vremea bilanțurilor, Cord Blood Center Ro trage linia sub 2008, un an de referință pentru existența companiei clujene.

Aflată pe piață din anul 2004, Cord Blood Center Ro efectuează prima recoltare de celule stem din sânge placentar în primăvara anului 2005.

În urmă cu exact un an, Cord Blood Center Ro și Fundația Eurocord România anunțau înființarea, la Cluj-Napoca, a primei bănci private de celule stem din România și promiteau inaugurarea, la scurt timp, a unei bănci care să gestioneze un registru public de sânge placentar.

Clujul este, începând cu luna iulie 2008, primul oraș din România care beneficiază de o bancă privată de sânge placentar.

Preocupată de domeniul social și implicată în acțiuni de responsabilitate civică, Fundația Eurocord România a lansat la sfârșitul lunii septembrie prima bancă publică de sânge placentar din România la care au acces în mod gratuit toți cetățenii români.

Sunt două proiecte de anvergură națională care s-au dezvoltat și finalizat la termenul propus.

De menționat faptul că proiectul înființării primei bănci publice de sânge placentar a putut fi finalizat și datorită campaniei de redirecționare a celor 2% din impozitul pe venit, campanie inițiată de către Fundația Eurocord România la începutul anului 2008.

Inițiativa deschiderii primului laborator de procesare de sânge placentar din România a fost apreciată astfel:

- Premiul "Carol Davila" (București, februarie 2008)

- Premiile media de excelență (Cluj-Napoca, mai 2008)

Am fost prezenți la cele mai importante evenimente de profil din România (congrese, târguri și expoziții dedicate). Funcționăm prin sediul central de la Cluj, punctul de lucru de la București și reprezentanții medicali responsabili pentru fiecare zonă geografică din România.

Avem multe planuri de viitor și sperăm să fim la fel de activi și dedicați misiunii noastre. "Sângele placentar salvează vieți!"

Pentru acest final de an, echipa Cord Blood Center urează tuturor cititorilor "Sărbători fericite"!