

## The incidence Of Paget's disease of the breast In Benghazi- Libya (During a period of 19 years)



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**Abstract:** Dermatoses of the nipple and areola are rare. The Paget's disease is a common dermatosis, which is presented in the form of a well-demarcated erythematous area, sometimes erosive, oozing or hyperkeratotic. Because the condition may be confused with benign diseases of the nipple, treatment is frequently delayed. The study aimed to highlight the incidence and make a clinical assessment of patients with Paget's disease of the breast in the eastern part of Libya. The Medical records and histopathological reports of all patients attended the breast clinic in 7<sup>th</sup> October Hospital in the period from June 1990 till December 2008 were collected and reviewed retrospectively. Demography, clinical features, and biopsy results were noted. The results: The total number of patients who had breast cancer was 897, from which Paget's disease was diagnosed in 19 patients (2.1%). Mean age at presentation was 57.3 years, and all of them were Women. Eczema of the nipple-areola complex and palpable mass occurred in (63.1% and 42.1%) respectively. The metastatic axillary lymphadenopathy at time of presentation were found in 36.8%. We conclude that Paget's disease is serious but commonly misdiagnosed. A thorough history and physical examination are important for every patient who is presented with skin and/or nipple changes of the breast, and physicians should maintain a high index of suspicion for Paget's disease of the breast.

**Key words:** Paget's disease, eczema, breast carcinoma.

### INTRODUCTION

Since the original association between skin changes of the nipple and the subsequent development of breast carcinoma was reported by Sir James Paget in 1874; the condition later termed Paget's disease of the nipple has been a well-documented clinical entity (Paget, 1874). The description of clinical changes of the nipple and areola by Sir Paget includes having the appearance of a florid intensely red raw surface (very finely granular as if the whole thickness of the epidermis was removed). Paget's disease of the breast occurs in approximately 1-3% of all primary breast carcinoma series (Caliskan et al., 2008; Chaudary, Millis, Lane, & Miller, 1986; Dixon, Galea, Ellis, Elston, & Blamey, 1991; Nance

FC, 1970) and often be presented clinically as eczematous changes of the nipple, associated with bleeding, itching, and ulceration (Nance FC, 1970; Paone & Baker, 1981) It is extremely uncommon in young women, and the presenting age ranges from 24 to 84 years with a mean age at diagnosis of 55 years (Siponen, Hukkinen, Heikkilä, Joensuu, & Leidenius, 2010). Although approximately 50% of patients present also with an associated palpable mass elsewhere in the breast, 40–50% of patients are diagnosed with Paget's disease without any other clinically breast lesion detected (Maier et al., 1969; Nance FC, 1970; Paone & Baker, 1981). In recent studies, in which mammographic findings have been correlated with clinical findings, the majority of women were presented with nipple changes.

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Histopathologically, a Paget's cell is large rounded cell with few intracellular bridges. It contains a large nucleus and light stain cytoplasm. A Paget's cell is regarded as a mammary gland cell that invades the surrounding tissues (Lever, 1983). Women presented with eczematous changes of the nipple are frequently diagnosed as dermatitis or eczema and treated with topical regimens with the true diagnosis remains elusive for long periods of time (Chaudary et al., 1986; Dixon et al., 1991). To avoid misdiagnosis of Paget's disease of the breast, clinicians must maintain a high level of clinical suspicion. We have documented more than 19 cases of Paget's disease. Our aim is to highlight the incidence and clinical assessment of patients with Paget's disease of the breast in the eastern part of Libya.

**MATERIALS AND METHODS**

All medical records and histopathological reports for patients who attended the breast clinic at 7<sup>th</sup> October Hospital in the period from June 1990 till December 2008 were collected and retrospectively analyzed. Demography, clinical features, and biopsy results were noted. Libya is a North African country classified under the Eastern Mediterranean Regional Office (EMRO). The overall population is of 6 million with 1.7 million (28%) situated in the eastern part. Benghazi is the second largest city in Libya, located at the coast of the Mediterranean Sea in the northeastern part of Libya with about one million inhabitants.

**Statistical analysis**

Descriptive statistics were used to describe and illustrate the data.

**RESULTS**

The total number of patients who had breast cancer was 897, from which Paget's disease was diagnosed in 19 patients (2.1%). All patients were females; the mean age of patients was 57.3yrs within a range from 30 to 80 years

(Figure 2). The clinical features of the patients at presentation are shown in (Figure1). Nipple ulceration and eczematous changes were found in 12 cases (63.1%), discharge and bleeding in 6 (31.5%) cases, and itching and indurations in 3 (15.7%) cases. Lump of the breast was found in 8 (42.1%) cases and pain in 2 (10.5%) cases, Palpable enlarged axillary lymph nodes were presented in 7(36.8%) cases. All patients were treated with total mastectomy and ipsilateral axillary dissection.

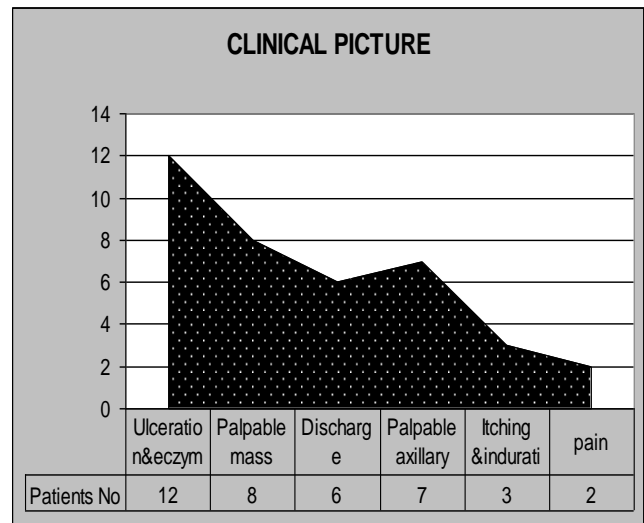


Figure: (1). Clinical picture of patients presented with Paget's disease of breast

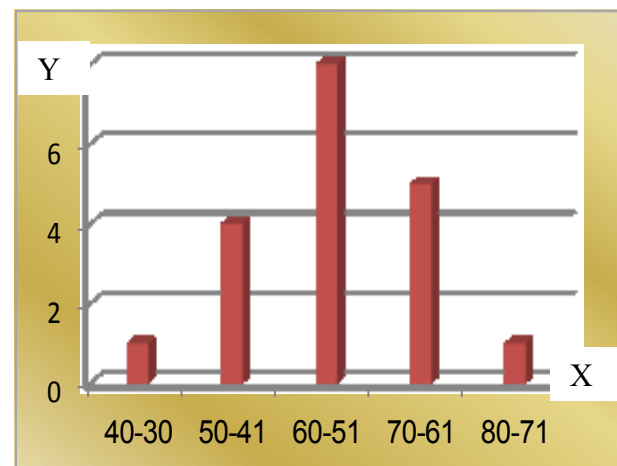
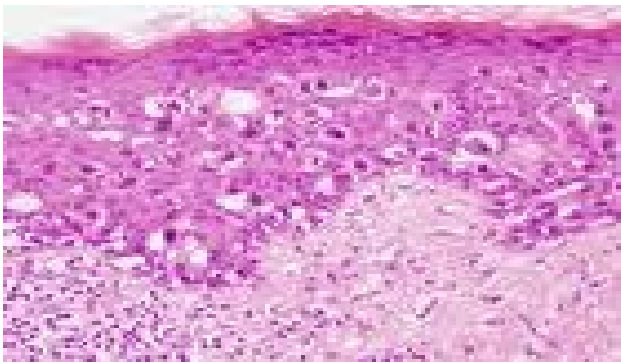


Figure: (2). (X): Ages of patients presented with Paget's disease of breast. (Y): Numbers of patients.



**Figure: (3).** Nipple Ulceration and eczema



**Figure: (4).** Pagetoid cell

**Table:(1).** Histopathological assessment of patients presented with Paget's disease of breast

Histopathology	NO	Proportion
Invasive DC	13	68.4%
DCIS	6	31.6%

## DISCUSSION

Paget's disease of the breast is a rare malignancy of the nipple-areola complex and results from the spread of intraductal carcinoma cells into the skin of the nipple and areola comprising 0.5–5% of all breast cancer (Nance FC, 1970; Paget, 1874; Sakorafas, Blanchard, Sarr, & Farley, 2001). In our study it comprises (2.1%). The diagnosis of nipple-areola Paget's disease requires a high index of suspicion with the incidence in patients between 50- 70 of age. This study was done at the breast clinic in 7th October hospital-

Benghazi. The clinic serves the majority of breast cases in Benghazi and considered to be the sole formal breast clinic in the city. It receives the overwhelming majority of referral breast cases from other hospitals and other parts of the city and is, therefore, capable of serving as a good indicator of this condition for the whole city. A total of 897 patients had breast cancer during this period, from which Paget's disease was diagnosed in 19 patients (2.1%). This study represents a unique attempt to define the burden of Paget disease in Benghazi. The clinical features of this disease are shown in (Figure 1); the most frequent were lesions of the nipple ulceration and eczematous changes. Nipple erosion with a palpable lump of the breast is typical in the majority of the cases, the former may precede the development of a detectable mass by many years, but a careful histological examination can detect the focus (Lancer & Moschella, 1982; Nehme, 1976).

The average delay between the onset of symptoms and definitive treatment is approximately only 7 to 8 months (Gupta, Khanna, Khanna, & Gupta, 1983; Lancer & Moschella, 1982; Nehme, 1976). The importance of histologic proof was noticed by (Nehme, 1976; Satiani, Powell, & Mathews, 1977) because the differential diagnosis should include malignant melanoma and intraepithelial squamous cell carcinoma (Bowen's disease). Special stains are helpful (positively Paget's cell stains for aldehyde fuchsin and mucin, have a periodic acid-Schiff positivity and resistance to diastase digestion (Lancer & Moschella, 1982; Nehme, 1976). Radiographic studies (mammography and ultrasound) can demonstrate the presence of the speculated mass, microcalcifications or other suggestive findings of underlying breast cancer. Biopsy should be performed of the nipple Paget's disease and the underlying breast lesion if there is palpable mass or suspicious mammographic finding. Total mastectomy with ipsilateral axillary lymph nodes dissection is the treatment

of choice in Paget's disease due to the greater incidence of invasive cancer, multifocal disease, and lymph node involvement and this was the preferred treatment in all of our patients. On the other hand for patients with Paget's disease who were presented without palpable mass and limited extent of underlying DCIS, some investigations have proposed the use of breast-conserving therapy (cone excision and radiotherapy) by the help of a more accurate and reliable imaging modality (MRI) which is necessary to select candidates for breast-conserving therapy more safely from patients with Paget's of breast (Harris, Lippman, Osborne, & Morrow, 2009; Kanitakis, 2007; Marshall et al., 2003; Sheen-Chen et al., 2001; Siponen et al., 2010).

Studies have shown, however, that patients with Paget disease of the breast who have a breast tumor and are having a mastectomy should be offered sentinel lymph node biopsy to see whether cancer has spread to the axillary lymph nodes. If cancer cells are found in the sentinel lymph node(s), more extensive axillary lymph-node surgeries may be needed (Laronga et al., 2006; Sukumvanich et al., 2007). Because many cases are missed by the general practitioners and dermatologist, it may be worthy to encourage strategies for early detection by keeping a high index of suspicion of Paget's disease for every case of eczematous breast lesion. Keeping in mind all possible limitations of our results and the small number of the study group, we want to share our experience with Paget's disease with others.

### CONCLUSION

Paget's disease is a serious but usually misdiagnosed because it most often presented clinically as eczematous changes of the nipple. A thorough history and physical examination are important for every patient who is presented with skin and/or nipple changes of the breast, and physicians should maintain a high index of suspicion for Paget's disease of the breast.

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## الإصابة بمرض باجيت للثدي في بنغازي- ليبيا (خلال فترة 19 عاما)

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**المستخلص:** الأمراض الجلدية للهالة الثديية والحلمة نادرة. ومرض باجيت للهالة وحلمة الثدي هو مرض جلدي شائع (وهي نوع من الأورام الخبيثة للثدي) والتي عادة ما تكوّن منطقة محمّرة (شديدة الاحمرار) محددة جيدا وأحيانا يوجد تآكل ونزف خفيف (نزور دموي) أو منطقة جلدية متغلظة. ولأنه قد يتم الخلط بين مرض باجيت والأمراض الحميدة الأخرى للهالة وحلمة الثدي لذلك يحدث تأخر متكرر في التشخيص والعلاج. يهدف البحث لتسليط الضوء على نسبة الإصابة والتقييم السريري لهذا المرض في شرق ليبيا. تم تجميع السجلات الطبية والتقارير المرضية (تحليل العينات) لجميع المرضى الذين حضروا عيادة الثدي بمستشفى 7 أكتوبر بنغازي في فترة من يونيو 1990 إلى ديسمبر 2008. وتم أخذ البيانات الديموغرافية والصورة السريرية ونتائج الخزعات التحليلية. عدد الحالات التي تعاني من سرطان الثدي كان 897 حالة منها 19 حالة شخّصت بأنها تعاني من مرض باجيت بنسبة 2.1%. وكان متوسط العمر عند اكتشاف المرض 57.3 سنة. جميع الحالات كانت إناثاً. أكثر الحالات كان لديها أكزيما في منطقة الهالة والحلمة (63.1%) وكتلة محسوسة تحت الحلمة (42.1%). أما في أكثر من ثلث الحالات فكان لديها انتقالات إلى العقد الليمفاوية الإبطية لنفس جهة الورم (36.8%). نستنتج أن مرض باجيت هو مرض خطير جدا. وتشخيصه دائما مفقود. أخذ التاريخ المرضي الشامل والفحص السريري مهم جدا لكل مريض بتغيرات جلدية في الهالة أو الحلمة. ويجب أن يحافظ الأطباء على درجة عالية من الاشتباه بمرض باجيت في الثدي وبخاصة في وجود هذه التغيرات.

**الكلمات المفتاحية:** مرض باجيت، أكزيما، سرطان الثدي.