Extra Mammary Pagets Disease = Extramammar Pagetic Disease

**EPIDEMIOLOGY**

- Extramammary Paget disease (EMPD) is a rare neoplasm that affects apocrine gland-bearing skin. It is characterized by the presence of malignant cells in the epidermis and the superficial dermis.
- Mammary Paget disease (MPD) represents approximately 1 percent to 3 percent of breast malignancies, usually occurring in women over the age of 50 years.
- EMPD occurs most commonly on the vulva, but it can also affect the perianal, perineal, and scrotal skin.
- Patients with a palpable breast mass have a 5-year survival rate of 20 percent to 45 percent.

**Complications**

- Laboratory tests can aid in the diagnosis of EMPD. Useful stains for distinguishing EMPD from MPD include mucicarmine, Alcian blue at pH 2.5, and colloidal iron.
- Cells are often positive for periodic acid-Schiff and diastase due to the presence of mucin.
- The malignant cells frequently show positive staining for periodic acid-Schiff and diastase due to the presence of mucin.
- Intercellular bridges indicate they are melanocytic.
- S100 and HMB-45 are useful for detecting EMPD.
- CK20 positivity has been found more frequently in cases of secondary EMPD with underlying carcinoma in situ typically do not stain with CK7 and CAM 5.2.

**Laboratory Tests**

- **Malignancy:**
  - Positivity is noted in both MPD and EMPD.
  - MUC2 expression is generally negative in primary malignant melanoma.
  - CK20 positivity has been found more frequently in cases of secondary EMPD with underlying carcinoma.
- **Stains:**
  - S100 and HMB-45 are useful for EMPD.
  - They are not completely specific, however, with false-positive results.
  - Low-molecular-weight cytokeratin stains cytokeratin 7 (CK7) and anti-cytokeratin (CAM 5.2) are sensitive markers for both MPD and EMPD.
- **Positron emission tomography scans** may be useful for cases of invasive EMPD to evaluate for malignancy.
- **Mammography** is indicated in all cases of MPD, with biopsy of any underlying carcinoma.
- **Positivity** is noted in both MPD and EMPD.
- **S100** and **HMB-45** are useful for detecting EMPD.
- **CK7** and **anti-cytokeratin (CAM 5.2)** are sensitive markers for both MPD and EMPD.
- **Complementary tests** for EMPD include mucicarmine, Alcian blue at pH 2.5, and colloidal iron.

**Clinical Course**

- Failure to identify and adequately treat cases of MPD can lead to metastatic disease with a poor prognosis. EMPD, if left untreated, can become invasive with a less favorable outcome.
- **Sentinel lymph node biopsy** has been shown to improve survival outcomes and may prove beneficial for those patients with increased risk of lymph node involvement in intraoperative tissue evaluation.
- **Surgery** remains the treatment of choice for EMPD when tolerated by the patient. However, high involvement of apparently unaffected skin suggests that a wide excision may be necessary.
- **Radiation therapy** has been described as useful for local recurrence after surgery or as adjuvant therapy with radiation, chemotherapy, or hormonal therapy.
- **Immunomodulators** and **topical chemotherapy** are also used in the treatment of EMPD.
- **Topical 5-FU** may prove beneficial for those patients with increased risk of lymph node involvement.
- **Freeze margins** are consistent with what is seen in various reports of EMPD treated with standard wide excision. Narrow margins are less effective than wider margins for excision.
- **Wide local excision** is the most frequently used method, various other treatments have a role for multi-focal disease that would make breast-conserving therapy less effective and favor radical vulvectomy, radical hemivulvectomy, and wide local excision.

**Prognosis**

- The local recurrence rates are higher in cases of invasive disease as compared to non-invasive EMPD.
- Surgery remains the treatment of choice for EMPD when tolerated by the patient. However, high involvement of apparently unaffected skin suggests that a wide excision may be necessary.
- **Radical vulvectomy, radical hemivulvectomy, and wide local excision** have reported recurrence.
- **Positron emission tomography scans** may be useful for cases of invasive EMPD to evaluate for malignancy.
- **Mammography** is indicated in all cases of MPD, with biopsy of any underlying carcinoma.