

**Aims:** The aim of our study was to study clinical and histological features of MMPC which is an uncommon entity.

**Methods:** Patients with histologically proven MMPC between 2017 and 2019 were identified from a prospectively maintained pathology data base of mastectomy. Data was reviewed by two pathologists. Breast tumor exhibiting more than 50% of micropapillary architecture in a mucinous background were included. Age, tumor size, histological grade, stage, LVI, LNM and hormone status were evaluated.

**Results:** Eight cases of MPMCs were diagnosed from 2017 to 2019. All patients were females, average age was 44.75 years (Range: 27–63 years). Average tumor size was 4.65 cm (Range: 2.6 and 7 cm), T2 tumor were 25% (2/8 cases) and T3 tumor were 75% (6/8 cases), Average histological grade was 2, (Grade 2: 87.5%, Grade 3: 12%), All cases had LVI (100%), LNM was present in 87.5% (7/8 cases). All cases were strong ER/PR positive (100%) and negative for Her2. Six out of eight cases presented with clinical stage III. Mean follow up period was 3.8 years (3–7 years). All patients were alive with one patient receiving therapy for recurrence in contralateral breast after 3 years.

**Conclusion:** MPMC is a distinct entity with frequent LVI, LN metastasis. It is important to identify MPMC on trucut biopsy to identify those who have worse prognosis. Sentinel lymph node biopsy should be performed actively in these cases, followed by aggressive postoperative therapy. Short term follow-up in our cohort of patients shows recurrence in one patient only. Thus, long term follow up will accurately determine its clinical behavior.

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### **Cystic neutrophilic granulomatous mastitis: a rare underdiagnosed entity associated with Gram-positive bacilli**

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**Background:** Cystic neutrophilic granulomatous mastitis (CNGM) is an uncommon subtype of granulomatous mastitis. The term was coined in 2011 and the diagnostic criteria were suggested in 2020, as presence of 2–3 of the following features which included (1) Lobulocentric mixed inflammatory

infiltrate composed of lymphocytes, neutrophils and scattered multinucleated giant cells, (2) Round to oval cystic spaces (lipid vacuoles) rimmed by neutrophils (microabscesses), (3) Nonnecrotizing granulomas. This combined with either (1) Presence of coryneform gram positive bacilli (rod shaped bacteria arranged in V shaped forms or palisades like Chinese characters) within lipid vacuoles or Positive Corynebacteria culture or molecular testing.

**Case series:** We had five cases of CNGM in out hospital from January 2021 to March 2022. All the cases were of middle aged women who presented with tender breast lump. USG guided biopsy in all the five cases showed characteristic clear cystic spaces of variable size surrounded by a rim of neutrophils. Fungal elements were not identified and PCR for tuberculosis was negative. Gram stain revealed rod shaped gram positive bacilli within the cystic spaces. One of the case had the organisms in only one cystic space. We could not perform culture in any of the cases.

**Conclusion:** It is important to recognize this underdiagnosed, yet easily recognizable entity particularly in areas where mycobacterial infections are so prevalent so as to avoid the patients being treated with antitubercular therapy. One must be aware to look for gram positive bacilli inside the cystic spaces in gram stain, otherwise the bacilli can be easily missed.

Cystic neutrophilic granulomatous mastitis is a rare entity and the pathologists should be aware and should be able to recognize this distinct pattern of granulomatous and neutrophilic inflammation with cystic spaces.

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### **Clinicopathological significance of PD-L1 expression in patients with triple-negative breast cancer**

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**Background:** Programmed death ligand 1 (PD-L1) targeted therapy alone or in combination, is now an alternative strategy in several aggressive tumour types. In this respect, triple-negative breast cancer (TNBC) is a potential candidate with limited treatment options and poor outcomes. However, the

prognostic value of PD-L1 expression in TNBC patients remains a controversial subject.

**Aims:** This study aimed to investigate the association between the PD-L1 expression and the clinicopathological features of TNBC patients.

**Methods:** A total of 118 samples from patients with TNBC were examined for PD-L1 expression by immunohistochemistry with an SP142 (Ventana) assay from August 2019 to March 2022. All PD-L1 (+) tumour-associated immune cells (IC) were quantified as a percentage of the tumour area. Tumours were classified as PD-L1(+) ( $\geq 1\%$ ) or PD-L1 (-) ( $< 1\%$ ). After excluding 12 metastatic and 5 biopsy samples of primary TNBC tested, the statistical significance of the correlation between PD-L1 status and clinicopathological characteristics of the 101 TNBC patients undergoing primary surgical treatment was determined by chi-square and Fisher's exact test.

**Results & Conclusions:** PD-L1(+) were 61 (51.7%) of the 118 TNBC patients, whose median age at diagnosis was 60 (range, 23–80). Positive expression of PD-L1 was detected in 54.7% (58/106) of primary cases compared to 25% (3/12) of metastatic TNBC cases ( $P = 0.049$ ). Among 101 TNBC patients undergoing primary surgery, 56 (55.4%) were PD-L1 (+). PD-L1(+) status was significantly associated with lymphocytic predominant TNBC having high stromal tumour-infiltrating lymphocytes (TILs) expression ( $\geq 60\%$ ,  $P = 0.038$ ), with carcinomas having higher proliferative index (Ki-67  $> 35\%$ ,  $P = 0.00085$ ), as well as with carcinomas with medullary features ( $P = 0.015$ ). No significant correlation was found between PD-L1 status and other variables such as patients' age, postoperative stage, tumour status, tumour size, lymph nodal status, histological grade, lymphovascular invasion, blood vessel invasion, perineural involvement, and p53 expression.

Therefore, our results indicate that PD-L1 expression may be a promising biomarker for the prognosis of TNBC.

all breast malignancies. Leiomyosarcoma is a malignant neoplasm with smooth muscle differentiation and third most common soft tissue sarcomas. Although uterine leiomyosarcoma metastasis is rarely seen in the breast, there are extremely rare retroperitoneal leiomyosarcoma that metastasize to the breast in the literature.<sup>1–3</sup>

**Aims:** In order to avoid unnecessary procedures and treatments in patients, there is a need to accurately define metastatic tumors in the breast, which can be seen rarely. We aimed to present a rare retroperitoneal leiomyosarcoma metastasis in the breast with our case.

**Methods:** We report the case of a 60-year-old woman who presented with a breast lump 4 years after excision for retroperitoneal mass.

In 2017, the patient presented with right colic flank pain with normal physical examination findings. Her radiological images showed 50 × 38 mm well-circumscribed solid mass in paraaortic region. Clinical referral diagnosis were paraganglioma and lymphadenopathy. Histopathologic and immunohistochemical findings supported leiomyosarcoma. In 2021 we were consulted a tru-cut biopsy from left breast. We described a neoplastic lesion originated from smooth muscle. Our differential definitions are malignant phyllodes tumor, atypical leiomyoma and metaplastic carcinoma in addition to leiomyosarcoma.

We reexamined all biopsies of the patients. Also we have made a literature review.

**Results & Conclusions:** Metastases to the breast, especially sarcomas, are highly rare. However, it is important in terms of diagnosis, treatment and prognosis. At the same time, our patient with liver, lung and subcutaneous metastases is still being treated in the oncology department 5 years after the primary localization diagnosis. We think that unusual tumors in the breast should also be kept in mind. It should be considered in anyone presenting with a breast mass who has previously undergone tumor surgery elsewhere.

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### A rare localization, metastasizing retroperitoneal leiomyosarcoma to the breast

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**Background:** Ekstramammary metastasis to the breast are uncommon and represent less than 2% of