

Multiple nodules of Pseudoangiomatous Stromal Hyperplasia (PASH) in a menacme patient: a case report

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Introduction: Pseudoangiomatous Stromal Hyperplasia (PASH) is a rare benign proliferating breast condition. It was first described in 1986 and less than 200 cases have been described ever since in the English literature. In the majority of cases, PASH is an incidental histological finding, but it can also be found in the physical examination as one typical single nodule (palpable, circumscribed, non-hemorrhagic), mostly on pre-menopausal women. It is frequently misdiagnosed as a fibroadenoma. PASH's etiology remains unclear, although it is related to different benign breast entities.

Objectives: This report aims to describe a case of multiple PASH nodules in a 31-year-old woman, its diagnosis and management.

Case report: VSS, female, 31 years old, previously healthy, presented with increased right breast volume (swelling) for the last six months. She denied local pain and fever at the spot. When examined, right breast was bigger than the left one and showed discrete hyperemia. There were neither palpable nodules on the breasts nor axillary lymph nodes. The attending physician ruled the diagnosis as mastitis and prescribed *clindamicin* for 7 days. He also ordered an ultrasound for complementary information. The exam result (ACR BI-RADS: 2) showed swelling, simple cysts (the biggest one measured 1.2 cm) and confirmed the diagnostic hypothesis for the right breast.

When the patient returned for another appointment, 2 weeks after the first consultation, there was a palpable, mobile nodule in the lower-outer quadrant of the right breast of approximately 5.0 cm. She also reported pain in the area and denied fever. The attending physician kept with the mastitis diagnosis and prescribed *metronidazole* and *cefalexin* for 7 days. The patient was asked for another ultrasound along with a mammography.

The patient returned again, 2 weeks after the last (and second) appointment. The mammography showed a nodule, in the lower-outer quadrant of the right breast, measuring 7.5 cm that matched with the pain-sensitive area in the patient breast. There was no sign of calcification and the exam was ruled as ACR BI-RADS: 0. The ultrasound result was still pending and, at that moment, the attending doctor changed the hypothesis to granulomatous mastitis. He prescribed the patient with *methotrexate* three times a week. He also requested a core-biopsy of the right breast.

The patient had a new appointment (fourth) a month after the third consultation: she denied any improvement of the pain due to *methotrexate*. She also reported pain on her left breast and at the examination, the right breast was still bigger than the left one. The biopsy result came out: pseudoangiomatous stromal hyperplasia of a nodule measuring 5.5x5.3x4.8 cm in the lower-outer quadrant of the right breast. The medical decision was to suspend *methotrexate*, request a new ultrasound and wait for the next consultation.

The patient returned two months later for a new appointment with the result of the post-biopsy ultrasound. It showed an enlargement of the biopsied nodule and the emergence of multiple new nodules on both breasts (*Table 1*). The exam also found five multiple agglomerates of microcysts on both breasts (2 on the left, 3 on the right). The patient also reported pain on both breasts and the medical decision was to ask for a revision of the result of the core-biopsy. The revision came back as PASH with the differential of fibroadenoma.

Due to these results, the attending doctor requested a bilateral nodulectomy. Fragments weighing 2940g and measuring 34x23x14 cm were taken from the right breast. The biopsy of these elements showed no atypia and confirmed PASH with fibroadenoma diagnosis. The muscle cells were positive for CD34. A fragment of 1570g and 18x16,5x9 cm was taken from the left breast. It also confirmed PASH.

The results after the surgery were good, with no aesthetic damage. Within 1 year of the nodulectomy there was no recurrence of the nodules.

Table.

#	Breast	Region	Measure (cm)	Distance from skin (cm)
1	left	nipple	4.4x4.3x0.8	0.7
2	left	subareolar	1.6x1.3x0.8	1.3
3	right	nipple	2.4x1.8x1.4	4.0
4	right	middle-superior	2.4x2.3x1.1	1.6

Conclusion: PASH is a relative uncommon benign stromal lesion of the breast and has a good prognosis. PASH should be considered by surgeon in the differential diagnosis in of tumor in premenopausal female population. Surgical excision of the tumor mass is recommended treatment.

Keywords: Pseudoangiomatous stromal hyperplasia; Multiple nodules; Breast.