OLGU SUNUMU CASE REPORT

DOI: 10.5336/medsci.2021-81698

# Symptomatic Benign Breast Cyst in a Young Male

## Genç Bir Erkekte Semptomatik Benign Meme Kisti

Kheng Hooi CHAN[a], Wee Yi LIM[b], Chang Haur LEE[b], Siti Zubaidah SHARIF[b], Firdaus HAYATI[c], Nornazirah AZIZAN[d], Azlanudin AZMAN[a]

[a]Department of Surgery, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, MALAYSIA
[b]Department of Breast & Endocrine Surgery, Queen Elizabeth Hospital 2, Kota Kinabalu, Sabah, MALAYSIA
[c]Department of Surgery, Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, MALAYSIA
[d]Department of Pathology and Microbiology, Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, MALAYSIA

**ABSTRACT** Simple breast cysts are benign lesions diagnosed in premenopausal women commonly presenting with a palpable breast lump. They are however, extremely rare in males due to the absence of lobular tissue in the male breast. We report a case of a benign breast cyst in a 19-year-old male who presented with a left breast lump and nipple discharge. Clinical examination revealed a non-tender 2x2 cm mobile retro-areolar lump in the left breast with clear serous nipple discharge upon milking of the duct. Ultrasonography showed typical features suggestive of a simple breast cyst and fine needle aspiration cytology revealed epithelial cells of apocrine origin, thus confirming the diagnosis. We review the literature and discuss the approach to investigation of these uncommon lesions presented in males.

**Keywords:** Breast cyst; breast neoplasm; cytological technique; males; ultrasonography

**ÖZET** Basit meme kistleri premenopozal kadınlarda sıklıkla palpe edilebilen bir meme kitlesi ile görülen iyi huylu lezyonlardır. Fakat erkek memesinde lobular doku olmadığından erkeklerde çok çok nadirdir. Sol memede kitle ve meme başı akıntısı nedeniyle başvuran 19 yaşında bir erkekteki iyi huylu meme kistini sunuyoruz. Klinik muayenede sol memede 2x2 cm'lik hassas olmayan, mobil retroareolar yumru ve süt kanalı sağıldığında meme başından gelen berrak seröz akıntı görüldü. Ultrasonografide basit meme kistini düşündüren tipik bulgular görüldü ve ince iğne aspirasyon sitolojisinde apokrin epitel hücreleri görülmesi ile tanı doğrulanmış oldu. Literatürü gözden geçirdik ve erkeklerde görülen bu yaygın olmayan lezyonlara yaklaşımı tartıştık.

**Anahtar Kelimeler:** Meme kisti; meme neoplazmı; sitolojik teknik; erkekler; ultrasonografi

Benign simple breast cyst is a common diagnosis amongst premenopausal women. It may present as tender palpable breast masses, with nipple discharge or incidentally found on radiological imaging. Simple breast cysts are composed of epithelium-lined fluid-filled cavities within lobules of the breast. The aetiology is unknown but is postulated to be due to the "aberration of normal development and involution" (ANDI).[1] However, the oestrogen stimulation or low androgen-to-oestrogen ratio, drugs, ductal ectasia, and even male breast cancer need to be ruled out prior to be labelled as ANDI.[2] Due to the absence of lobular tissue in males, this condition is extremely rare and challenging to be diagnosed mammographically.[1,2] We report a case of a benign breast cyst in a 19-year-old male which to our knowledge, is the youngest reported case of male breast cyst in literature and further discuss the diagnostic workup of this condition.

**Correspondence:** Firdaus HAYATI
Department of Surgery, Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, MALAYSIA/MALEZYA
**E-mail:** m_firdaus@ums.edu.my

Peer review under responsibility of Turkiye Klinikleri Journal of Medical Sciences.

***Received:*** 27 Jan 2021 ***Received in revised form:*** 09 Nov 2021 ***Accepted:*** 17 Dec 2021 ***Available online:*** 22 Dec 2021

## CASE REPORT

A healthy 19-year-old male was referred to us after he presented with a left breast lump with clear nipple discharge over 4 years duration. The lesion was painless and remained the same size over the years. He had no family history of breast or ovarian malignancies. He was not a smoker nor an alcohol consumer and denied taking steroids or any illicit drugs/medications. There was a palpable retro-areolar lump in the left breast on physical examination, measuring 2x2 cm, which was soft in consistency, mobile and had relatively well-defined margins. Upon milking of the lesion, there was clear nipple discharge from the associated duct. The overlying skin was normal without gynaecomastia. There was no lymphadenopathy. Systemic examination was unremarkable.

The biochemical investigations including liver function test, serum prolactin and oestradiol were within the normal limits. Ultrasonography of the breast revealed a well-defined compressible anechoic lesion with posterior enhancement at the left retro-areolar region measuring 0.7x2.7x2.8 cm (Figure 1). No septation or soft tissue component was seen within this lesion. The constellation of clinical findings were suggestive of a simple breast cyst. The patient underwent an ultrasound-guided fine-needle aspiration and cytology (FNAC), and the cyst subsequently collapsed following the aspiration of 5 mL of serous fluid. Cytological examination of the cyst fluid showed epithelial cells of apocrine type in clusters and a presence of background scanty foamy histiocytes with no evidence of malignancy. These findings were consistent with the diagnosis of a simple benign breast cyst.

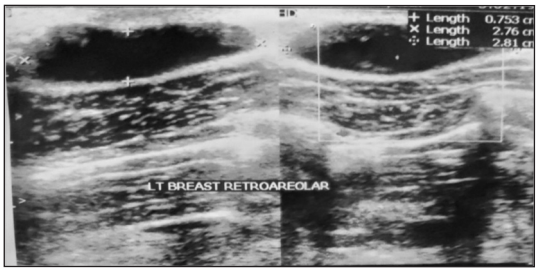


**FIGURE 1:** Sonographic appearance of the breast cyst demonstrating a well-circumscribed anechoic lesion with posterior enhancement.

The patient was reassured of his benign condition and was managed conservatively. A repeat ultrasound was done at 6 months post aspiration, which showed that the breast cyst had recurred, with no malignant changes seen. He remained asymptomatic and well. He was then discharged to his primary care physician for follow-up ultrasonography.

The consent was obtained from the patient.

## DISCUSSION

Male breast cyst is uncommon. To our knowledge, there are only three other case reports of true benign breast cyst in males, with our report being the youngest case reported in literature (Table 1). Histologically, the male breast is composed predominantly of subcutaneous fat with very few ducts and stroma.[1] The commonest breast condition in males is gynaecomastia and though benign, it has various aetiologies and multiple casualties. It may be more plausible to develop breast cysts in a patient with gynaecomastia due to increased lobular development rather than in our case.

Breast masses in males are also evaluated by a triple assessment in a similar approach as the females. Ultrasonography is highly effective for exploring the isolated lesions and differentiating solid from cystic masses. Simple breast cysts are characterised by well-defined margins, anechoic contents, posterior enhancement and lateral acoustic shadows.[5,6] This is in contrast to typical sonographic features of a malignant lesion. The sonographic lesion described in our case is similar to that of a benign breast cyst that is commonly seen in the female breast due to the presence of lobular tissue, a component physiologically lacking in male breast. Ultrasonography can reveal solid, hypoechoic, irregularly shaped masses in the subareolar region.[7] Mammography is preferred for the early identification of invasive carcinomas. Malignancy can appear as hyperdense, spiculated, and irregularly shaped masses in the subareolar area.[7] Rarely, the microcalcifications can also be visualised.[7] When used to identify cysts, these lesions may appear as solitary or multiple, low or equal density masses of variable sizes with well-circumscribed margins.[8] However, mammography may be of little

**TABLE 1:** Review of reported benign breast cyst in male.

| Year | Author | Age | Presentation | Site | Imaging | Size | Biopsy |
|---|---|---|---|---|---|---|---|
| 1994 | Chantra et al.[3] | 72 | Intermittent blood-stained nipple discharge & pain; gynaecomastia | Left | MMG | - | Surgical excision |
| 2011 | Parsian et al.[2] | 58 | Incidental finding | Left | USG & MMG | 10 mm | CNB |
| 2019 | Azimi et al.[4] | 37 | Pain; gynaecomastia | Left | USG & MMG | 12x8x15 mm | CNB |

MMG: Mammogram; USG: Ultrasound; CNB: Core needle biopsy.

diagnostic value in males due to the minute breast volume and the difficult technicality of performing the mammogram.

Aspiration of simple breast cysts can be considered in symptomatic patients. Simple breast cysts with no solid components that resolve after aspiration, may be treated as benign diseases and undergo routine radiological surveillance. However, after aspiration, cyst recurrence should warrant urgent repeat imaging to evaluate for solid intracystic, followed by a core needle biopsy to rule out underlying malignancy. Intracystic papillary breast carcinoma has been reported as many as 18 cases among males.[9] FNAC and trucut biopsy are also diagnostic in intracystic papillary breast carcinoma. As in ours, we chose to proceed with FNAC which has been proven to be benign. An excisional biopsy is recommended in all cystic lesions in the male breast if the results are inconclusive.[9] Even though it is uncommon, breast cancer among males which accounts for only 1% of all breast malignancies can lead to significant morbidity and mortality.[10]

In conclusion, breast cysts in males are extremely rare due to the physiological absence of lobular tissue. A triple assessment approach should be used to evaluate any lump presenting in the male breast. Radiological evaluation and biopsy are advised to exclude malignancy. Benign cysts may be managed conservatively with serial follow up imaging and aspiration in symptomatic patients.

### *Acknowledgement*

*We would like to thank the Director General of Health Malaysia for his permission to publish this article as a case report.*

### *Source of Finance*

*During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.*

### *Conflict of Interest*

*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

### *Authorship Contributions*

***Idea/Concept:*** *Kheng Hooi Chan, Wee Yi Lim;* ***Design:*** *Firdaus Hayati;* ***Control/Supervision:*** *Chang Haur Lee, Siti Zubaidah Sharif;* ***Analysis and/or Interpretation:*** *Azlanudin Azman;* ***Literature Review:*** *Kheng Hooi Chan;* ***Writing the Article:*** *Kheng Hooi Chan, Wee Yi Lim;* ***Critical Review:*** *Nornazirah Azizan.*

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